United States Government Accountability Office

Report to Congressional Committees

May 2022

# DEFENSE HEALTH CARE

# Prevalence of and Efforts to Screen and Treat Mental Health Conditions in Prenatal and Postpartum TRICARE Beneficiaries

GAO-22-105136

May 2022

# DEFENSE HEALTH CARE

## Prevalence of and Efforts to Screen and Treat Mental Health Conditions in Prenatal and Postpartum TRICARE Beneficiaries

GAO Highlights

Highlights of GAO-22-105136, a report to congressional committees

## Why GAO Did This Study

TRICARE provides health care to more than 9 million eligible beneficiaries, including military servicemembers and their dependents through both MTFs and private sector providers. In fiscal year 2020, there were more than 105,000 births among beneficiaries. Due to factors such as isolation from social support networks, TRICARE beneficiaries face unique risk factors for perinatal mental health conditions. Mental health conditions such as depression and anxiety are the most common complication during and after pregnancy in the general population.

The William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 includes a provision for GAO to study perinatal mental health conditions among TRICARE beneficiaries. This report describes (1) the prevalence of such conditions in the TRICARE population; and (2) DOD's efforts to screen and treat such conditions.

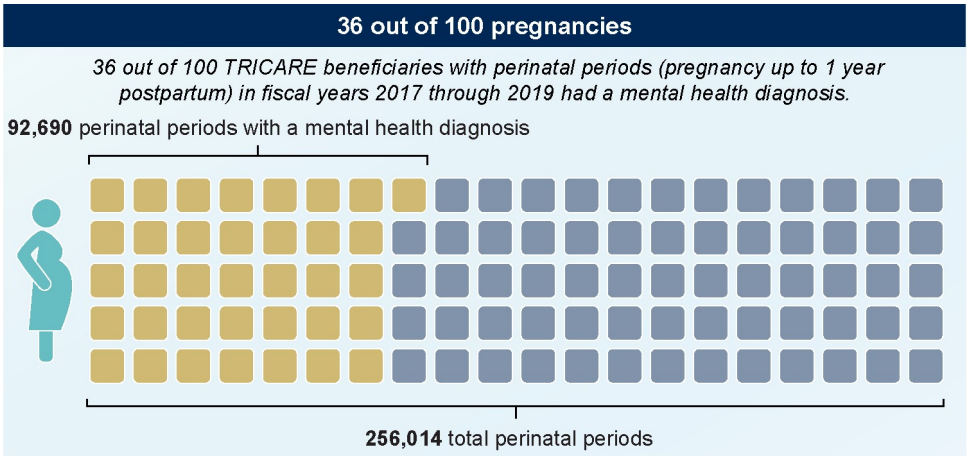
To do this work, GAO analyzed TRICARE data for pregnancy outcomes (live deliveries and losses) in fiscal years 2017 through 2019, to identify (1) mental health diagnoses during pregnancy or up to 1 year after, and (2) mental health-related prescriptions dispensed and psychological services. These were the most recent available data that included the full postpartum year. GAO also reviewed DOD documents and policies, and interviewed officials from DOD's DHA, obstetric providers from six MTFs (selected for variation in geographic and service locations), five beneficiaries, and other organizations with relevant expertise. GAO also conducted a literature review to identify potential barriers to care.

View GAO-22-105136. For more information, contact Alyssa M. Hundrup at (202) 512-7114 or hundrupa@gao.gov.

## What GAO Found

Available data for fiscal years 2017-2019 show that about 36 percent of beneficiaries in the Department of Defense's (DOD) TRICARE program received mental health diagnoses during their perinatal periods. The perinatal period includes the time during pregnancy and through 1 year after.

**Prevalence of Mental Health Diagnoses among TRICARE Beneficiaries**




Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Note: Data set represents 235,283 beneficiaries, some of which had multiple pregnancies during GAO's review period.

GAO's analysis indicated that certain demographics of beneficiaries who either gave birth or lost a pregnancy had higher rates of perinatal mental health diagnoses. These include beneficiaries (servicemembers and dependents) associated with lower military ranks—a proxy for socioeconomic status. The three most common categories of mental health diagnoses in GAO's analysis were anxiety disorders, depressive disorders, and trauma- and stressor-related disorders.

Overall, GAO found DOD encourages mental health screening for perinatal (prenatal and postpartum) beneficiaries in TRICARE, and provides treatment to most beneficiaries with mental health diagnoses. For screening, DOD's Defense Health Agency (DHA) officials said they emphasize the use of clinical practice guidelines, which call for regular screening during the perinatal period. Regarding perinatal mental health treatment, GAO's analysis of TRICARE data for fiscal years 2017-2019 show that about three-quarters of beneficiaries with perinatal mental health diagnoses obtained treatment—prescription medication, psychological services, or both. GAO identified practices at selected military treatment facilities (MTF) that may facilitate access to perinatal mental health treatment, such as offering mental health services within women's health clinics. For example, providers from one MTF that offers that such services within a women's health clinic said that this practice reduces stigma. This may be because patients are not seen going to mental health clinics. GAO and others have identified stigma as one potential barrier to care.

# Contents

Figures

## Abbreviations

| | |
|---|---|
| DHA | Defense Health Agency |
| DOD | Department of Defense |
| MCSC | managed care support contractor |
| MDR | Military Health System (MHS) Data Repository |
| MHS | Military Health System |
| MTF | military treatment facility |
| OB/GYN | obstetrician/gynecologist |

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

May 23, 2022

The Honorable Jack Reed
Chairman
The Honorable James M. Inhofe
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Adam Smith
Chairman
The Honorable Mike Rogers
Ranking Member
Committee on Armed Services
House of Representatives

Through its TRICARE program—including military-run hospitals and clinics as well as a network of private providers and hospitals—the Department of Defense's (DOD) Military Health System (MHS) provides health care services to about 9.6 million eligible beneficiaries (including servicemembers and their dependents). About 15 percent of these beneficiaries—approximately 1.5 million—are women of childbearing age.[1] Pregnancy and childbirth-related care are the inpatient services with the largest volume within the MHS. According to DOD, in fiscal year 2020, there were more than 105,000 births among TRICARE beneficiaries.

Research has shown that the single most common complication during pregnancy (prenatal) and after delivery (postpartum) in the general population is developing a mental health condition, such as postpartum

[1]This estimate is based on fiscal year 2020 utilization data for the female population aged 18-44. Department of Defense, Defense Health Agency, *Evaluation of the TRICARE Program: Fiscal Year 2021 Report to Congress* (February 26, 2021).

Throughout this report, we use the term "women" to describe the population potentially affected by perinatal mental health conditions, based on the definitions of the data sources we use. However, this term does not include all people who can become pregnant and may experience these conditions. For example, people who do not identify as either male or female may become pregnant, as may some transgender men.

depression.[2] Researchers have estimated that as many as one in five women will experience depression during or within a year after pregnancy, together referred to as the perinatal period. Mental health conditions with perinatal onset can include depression, anxiety, psychosis, bipolar disorder, post-traumatic stress disorder, and more.

According to experts, active-duty servicemembers and their spouses face unique risk factors for perinatal mental health conditions, such as separation from spouses due to deployment and isolation from social support networks. In particular, a DOD-supported study found that 35 percent of TRICARE beneficiaries delivering babies from 2005 through 2014 received a new mental health diagnosis during the perinatal period.[3] Research has shown that maternal mental health conditions, including depression, can interfere in the lives of mothers and their babies, disrupt maternal-child bonding, and impact family life.[4] In its 2020 report on access to mental health care, the DOD Inspector General stated that mental health, including the health and well-being of military families, is a critical part of every servicemember's medical readiness.[5]

The William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 includes a provision for us to conduct a study related to perinatal mental health conditions among members of the Armed Forces and their dependents.[6] This report

1. describes the prevalence of perinatal mental health conditions among TRICARE beneficiaries; and

[2]See for example, Fawcett, E.J., et al., "The Prevalence of Anxiety Disorders during Pregnancy and the Postpartum Period: a Multivariate Bayesian Meta-Analysis," *Journal of Clinical Psychiatry*, Vol. 80, No. 4 (2019).

[3]T. Andriotti, et al., "Psychiatric Conditions During Pregnancy and Postpartum in a Universally Insured American Population," *Military Medicine* (2021).

[4]See, for example, R.K. Dagher, et al., "Perinatal Depression: Challenges and Opportunities," *Journal of Women's Health,* Vol. 30, No. 2 (2021).

[5]Department of Defense Inspector General, *Evaluation of Access to Mental Health Care in the Department of Defense*, DODIG-2020-112 (August 2020).

Medical readiness refers to the physical and mental health and fitness of military servicemembers to perform their missions.

[6]Pub. L. No. 116-283, § 754, 134 Stat. 3388, 3720-21 (2021).

2. describes DOD efforts to screen and treat perinatal mental health conditions in TRICARE beneficiaries.

To describe the prevalence of perinatal mental health conditions among TRICARE beneficiaries, we obtained TRICARE administrative claims data for beneficiaries with pregnancy outcomes (deliveries and losses) that occurred in fiscal years 2017 through 2019, the most current data available for our purposes at the time of our review. We analyzed these data to identify mental health diagnoses beneficiaries received during their perinatal periods—during pregnancy or up to 1 year after.[7] We also analyzed these claims data for mental health-related prescriptions dispensed and psychological services. To assess the reliability of the claims data, we reviewed related documentation, interviewed knowledgeable officials, and conducted electronic and manual data testing to look for missing or erroneous data. We found the data sufficiently reliable for our purposes of reporting prevalence of mental health conditions among perinatal TRICARE beneficiaries. See appendix I for more details on our objectives, scope, and methodology.

To describe DOD efforts to screen and treat perinatal mental health conditions in TRICARE beneficiaries, we reviewed DOD documents and policies (including relevant clinical practice guidelines), and interviewed officials from DOD's Defense Health Agency (DHA), which oversees the TRICARE program. We interviewed DHA officials involved in the administration of direct care provided at military treatment facilities (MTF)—military-run hospitals and clinics—and in the private sector care network of providers that participate in TRICARE.

We also interviewed direct care providers from women's health clinics at six MTFs, selected to represent a variety of geographic and service locations, and officials from the two managed care support contractors (MCSC) who administer the TRICARE civilian provider network to gather information on screening and treatment practices in private sector care. In addition, we held individual discussions with five TRICARE beneficiaries—all of whom were spouses of servicemembers—about their experiences with screening and treatment for perinatal mental health

[7]In reporting the prevalence of mental health diagnoses, in most cases we report the prevalence of diagnoses per perinatal period, not per beneficiary, to account for beneficiaries with more than one pregnancy during our period of review. Our study population included 235,283 beneficiaries with 256,014 perinatal periods.

conditions, in both direct care and private sector care.[8] Our interviews with direct care providers and beneficiaries are not generalizable, but provide illustrative examples of perinatal mental health care in TRICARE. We also interviewed officials from three outside organizations with expertise on perinatal mental health or the needs of TRICARE families, including Postpartum Support International.

We conducted this performance audit from April 2021 to May 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Background

DOD operates its own large, complex health system that provides health care at MTFs located on or near military installations.[9] DHA administers all MTFs in the United States; those MTFs are typically staffed by military, civil service, and contract personnel.[10] Among other things, DHA coordinates the delivery of health care through the TRICARE program—which comprises both the MTFs and networks of private providers. In particular, DHA leads efforts to continually improve health care by standardizing practices across the MHS through evidence-based clinical practice guidelines (guidelines). DHA's clinical communities, aided by DHA's clinical management teams, help ensure implementation of these

[8]We identified beneficiaries for interviews based on their participation in a "military moms" support group (operated by Postpartum Support International) and their willingness to discuss their experiences regarding perinatal mental health care.

[9]There are three types of MTFs that provide a wide range of clinical services depending on size, mission, and level of capabilities: medical centers, hospitals, and ambulatory care centers. See 10 U.S.C. § 1073d.

[10]The National Defense Authorization Act for Fiscal Year 2017 directed DHA to take responsibility for the administration of all MTFs by October 1, 2018, and additional legislation later extended this deadline to September 30, 2021. Pub. L. No. 114-328, § 702(a)(1), 130 Stat. 2000, 2193-95 (2016) and Pub. L. No. 115-232, § 711(a)(1), 132 Stat. 1636, 1806 (2018) (codified, as amended, at 10 U.S.C. §1073c). According to DHA, as of January 2022, it has established responsibility for providing care to eligible beneficiaries in 2 of the 4 health care markets it is tasked with managing and plans to assume management of the remaining two health care markets in 2022.

guidelines across the MHS.[11] We have previously reported that having guidelines for military and veteran populations is important, as these populations may have different health care needs than civilians.[12]

## Direct Care and Private Sector Care for TRICARE Beneficiaries

The military services' system of MTFs, known as the 'direct care' system, is supplemented by networks of participating private health care providers, institutions, and pharmacies, known as the 'private sector care' system. The private sector care system facilitates access to health care services when necessary and has two regions operated by two civilian managed care support contractors (MCSC), with oversight from DHA.[13] DHA relies on the MCSCs to ensure beneficiaries have access to quality health care, and accordingly, DHA depends on the MCSCs for the day-to-day administration of the civilian provider networks. Active-duty servicemembers receive most of their care from MTFs, where they receive priority access over other beneficiaries.[14]

Beneficiaries may have a choice of TRICARE plan options—including TRICARE Prime or TRICARE Select—depending upon their status (e.g., active-duty, family member, retiree, reservist) and geographic location; active-duty servicemembers are automatically assigned to TRICARE Prime, and pay no copayments for care at MTFs. Each plan option has different beneficiary cost-sharing features.

- TRICARE Prime is a health maintenance organization-style option in which beneficiaries typically get most care through a primary care

[11]According to DHA, clinical communities are a network of multidisciplinary groups of DOD health care personnel working toward common goals in a particular care area, such as behavioral health. As of February 2021, there were 11 communities, organized by high-volume, high-risk groups of interrelated care processes, which "house and align clinical specialties with the patient's perspective across the care spectrum." Clinical communities are intended to identify and resolve unwarranted variation in care across DOD, and foster a culture of safety and innovation. The clinical communities are supported by other entities, including clinical management teams, which establish communication between the clinical communities and the DHA markets.

[12]See GAO, *Defense Health Care: DOD Should Monitor Implementation of Its Clinical Practice Guidelines*, GAO-21-237 (Washington, D.C,: Feb. 5, 2021).

[13]Humana Government Benefits is the TRICARE East MCSC and Health Net Federal Services is the TRICARE West MCSC.

[14]See 10 U.S.C. § 1074 and 32 C.F.R. § 199.17(d) (2021).

manager.[15] Active-duty servicemembers needing care that their primary care manager cannot provide or that is unavailable at their MTF need a referral.[16] Dependent TRICARE beneficiaries typically need referrals for most services their primary care manager cannot provide.[17]

- TRICARE Select is a self-managed, preferred-provider option. This plan allows beneficiaries flexibility to manage their own health care and typically does not require a referral for specialty care, including mental health care.

## Obstetric Care Services

DOD offers TRICARE beneficiaries basic and specialty obstetric care services across the direct and private sector care systems. Obstetric care providers include obstetrician/gynecologists (OB/GYN) and certified nurse midwives who are specialists in medical care for pregnant and postpartum women, as well as other providers such as family physicians. Providers care for pregnant and postpartum women through a series of frequent office visits.[18] Obstetric care providers monitor mothers' postpartum recovery through office visits that typically occur during the first 6 weeks after the baby is born. These providers also generally monitor patients for common pregnancy and postpartum complications, which could include perinatal mental health conditions. According to DOD, direct care beneficiaries with potential pregnancy complications may be referred out to the private sector network for specialty care.

## Perinatal Mental Health Conditions and Risk Factors for TRICARE Beneficiaries

According to researchers, perinatal mental health conditions

- are psychiatric disorders that occur during pregnancy and in the postpartum period, up to one year after delivery;

[15]Primary care managers are responsible for providing routine, non-emergency, and urgent health care. All TRICARE Prime beneficiaries select or are assigned a primary care manager.

[16]Specialty care services include those where a specialist's consultation and complex decision making are required (e.g., maternity care, mental health services). TRICARE Prime beneficiaries may also need a referral from the MCSC to seek and obtain specialty care from civilian providers.

[17]When making referrals for dependent TRICARE Prime beneficiaries, primary care managers are to follow the same referral process for active-duty servicemembers. Unlike active-duty servicemembers, dependent beneficiaries may also seek care from non-network providers without a primary care referral using the point-of service-option.

[18]Walter Reed National Medical Center, *Your Guide to Prenatal Care,* Bethesda, Md.

- include disorders ranging from mild depression and anxiety to mania or psychosis that may develop or first be recognized during pregnancy or in the postpartum period;[19] and
- are diagnosed through a clinical evaluation process where a clinician interviews the patient and reviews other contextual information such as patient medical records, physical exams, diagnostic screening tests, and social history. The clinician uses clinical judgement when diagnosing a patient and works with the patient to develop a treatment plan.[20]

Research indicates that perinatal mental health conditions can affect mothers with those conditions and their families. For example, one study found that postpartum depression may create an environment less conducive to the optimal health and development for both mother and child.[21] Detecting and treating such conditions as early as possible may avoid harmful consequences.[22] Furthermore, some perinatal women who are depressed have an increased suicide risk.[23]

Given that perinatal mental health conditions can adversely affect women, infants, and their families, U.S. Preventative Services Task Force guidelines recommend women's health providers screen women for depression in particular during pregnancy or the postpartum period.[24] The Task Force guidelines also recommend systems be in place to ensure

[19]O'Hara, Michael W., and Katherine L. Wisner. "*Perinatal mental illness: definition, description and aetiology*." *Best Practice & Research Clinical Obstetrics & Gynaecology* 28.1 (2014): 3-12.

[20]American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), 2013 p. 20.

[21]Slomian, Justine et al., "Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes." *Women's Health,* Vol. 15 (2019).

[22]Slomian, et al. "Consequences of maternal postpartum depression."

[23]Dagher, R.K, et al., "Perinatal Depression: Challenges and Opportunities," *Journal of Women's Health*, Vol. 30, Number 2 (2021).

[24]The U.S. Preventative Services Task Force is an independent, volunteer panel of national experts in prevention and evidence-based medicine. The Task Force works to improve the health of people nationwide by making evidence-based recommendations about clinical preventive services such as screenings, counseling services, and preventive medications.

follow-up for diagnosis and treatment for patients having screenings that are positive for symptoms of potential mental health conditions.[25]

Risk factors for perinatal mood disorders include environmental stressors, such as adverse life events, low socioeconomic status, and pregnancy complications, as well as age and prior mental health history.[26] Research suggests issues faced by military populations such as limited social support and spousal deployment may place them at particular risk for perinatal mental health conditions.[27] Further, one researcher found that a culture of "service before self" and "sacrificing everything for the mission"—in servicemembers and their dependents—may increase maternal depression and anxiety.[28]

## Potential Barriers to Perinatal Mental Health Care

Research shows that individuals seeking care for perinatal mental health conditions may face barriers that prevent them from obtaining care, or that make it more difficult. (See fig.1) For example, one systematic review of the literature cited a variety of potential barriers those seeking care may face, including lack of time, lack of available treatment options, stigma, not knowing where to go for help, and difficulty with cost.[29] Military servicemembers and their dependents, in particular, may face these and other barriers. For example, one study found that active-duty mothers may fear seeking treatment, believing it will negatively affect their career, or fear they will be seen as weak by unit members.[30] For more information on potential barriers to care—including those that may specifically affect TRICARE beneficiaries—see appendix II.

[25]Albert L. Siu, MD, MSPH; and the US Preventive Services Task Force, *Screening for Depression in Adults - US Preventive Services Task Force Recommendation*, *JAMA*. 2016;315(4):380-387. doi:10.1001/jama.2015.18392.

[26]See, for example, Dagher, et al. "*Perinatal Depression: Challenges and Opportunities*."

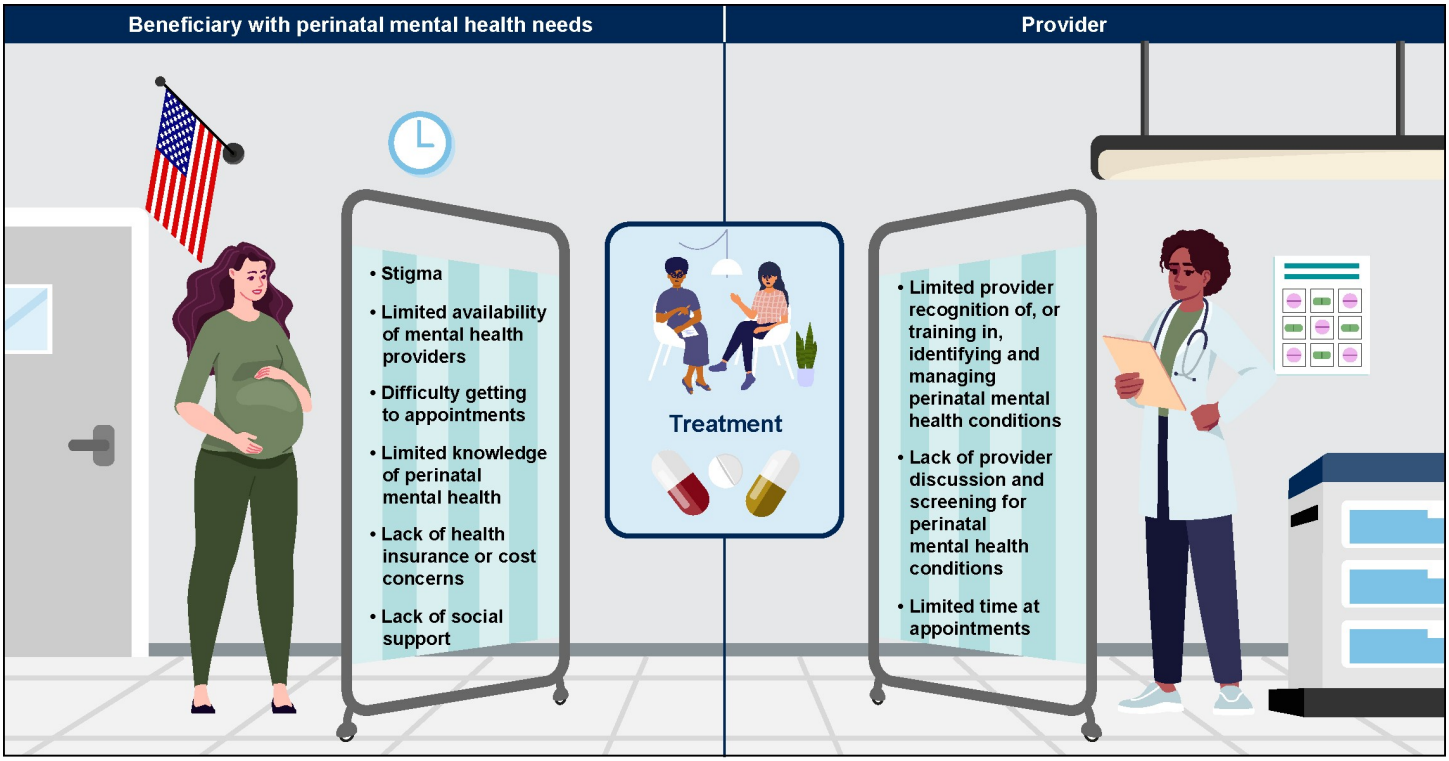
[27]Thiam, M.A. (Ed.), *Perinatal Mental Health and the Military Family: Identifying and Treating Mood and Anxiety* Disorders, 1st ed. (Routledge, New York, NY: 2017).

[28]Weis, Karen L. "*Pregnancy in the Military: Importance of Psychosocial Health to Birth Outcomes.*" Scientific Panel, 2016 Military Women's Health Research Conference, Uniformed Services University of the Health Sciences, Bethesda, Md. April 25-27, 2016.

[29]Byatt, Nancy, et al., "Strategies for Improving Perinatal Depression Treatment in North American Outpatient Obstetric Settings." *Journal of Psychosomatic Obstetrics & Gynecology*, vol. 33, no. 4 (2012).

[30]Thiam, M.A. (Ed.), *Perinatal Mental Health and the Military Family*, 94.

**Figure 1: Examples of Potential Barriers to Perinatal Mental Health Care for Beneficiaries and Providers**




Source: GAO literature review (data); charactervectorart/OlgaStrelnikova/bsd studio/stock.adobe.com (images). | GAO-22-105136

# Prevalence of Perinatal Mental Health Diagnoses among TRICARE Beneficiaries

## Prevalence among Beneficiaries, including Active-Duty Servicemembers and Their Dependents

Based on our review of TRICARE data for pregnancy outcomes in fiscal years 2017 through 2019, we found that 36 percent of TRICARE

beneficiaries' perinatal periods included a mental health diagnosis.[31] Further, our analysis of the data showed that an additional 5 percent of perinatal periods included mental health prescriptions (without a diagnosis), indicating that as many as 41 percent of TRICARE beneficiaries' perinatal periods could include a mental health condition.[32]

The prevalence of perinatal mental health diagnoses in TRICARE varied by beneficiary category, with retired servicemembers having the highest rates (see table 1).[33] Active-duty servicemembers had a slightly higher prevalence of perinatal mental health diagnoses than dependent beneficiaries (such as the spouses of active-duty servicemembers). See appendix III for additional analyses.

[31]We define the perinatal period as the start of pregnancy up to 1 year postpartum. We used perinatal periods as our unit of analysis to account for beneficiaries with more than one pregnancy in our time period. Our study population included 235,283 beneficiaries with 256,014 perinatal periods. We included in our analysis perinatal periods with known pregnancy outcomes, such as delivery, abortion, or pregnancy loss (see appendix I for full list of pregnancy outcome codes we included), occurring between fiscal years 2017 and 2019 in either direct or private sector care. We likely did not include all pregnancy outcomes in this time period, since some pregnancies may not have had a pregnancy outcome code due to the outcome occurring outside of TRICARE or outside of the medical system. We included all mental health conditions found during the perinatal period, including conditions that may have had initial onset outside of the perinatal period, as well as conditions that may have been in remission.

[32]We analyzed data on perinatal periods with prescriptions for medications used to treat mental health, even without an accompanying diagnosis, because such prescriptions likely indicate a mental health condition.

[33]Data were not available to directly compare the prevalence of mental health conditions for perinatal TRICARE beneficiaries with perinatal individuals across the nation. Across the general population, the National Survey on Drug Use and Health estimated that 20.6 percent of all U.S. adults had a mental health diagnosis in 2019. See Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, *Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health*, (2020). The 20.6 percent estimate did not include developmental or substance-use disorders, which we did include in our perinatal mental health prevalence calculations.

Servicemembers may be eligible for retirement after 20 years of active-duty service. Accordingly, military retirees are relatively young—the average age of retired servicemembers in fiscal year 2020 was about 46, according to DOD. See Department of Defense, Office of the Actuary, *Statistical Report on the Military Retirement System; Fiscal Year Ended September 30, 2020*, September 2021, p. 47.

**Table 1: TRICARE Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Beneficiary Category**

| Beneficiary category | Total number of perinatal periods | Prevalence (percent of total) |
|---|---|---|
| Retired servicemembers[a] | 2,764 | 62.6 |
| Active-duty servicemembers[b] | 41,195 | 37.8 |
| Dependents[c] | 208,475 | 35.6 |
| Inactive guard and reserve members | 3,457 | 29.8 |
| Other[d] | 123 | 39.0 |
| **All beneficiaries (total)** | **256,014** | **36.2** |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Data set includes 235,283 unique beneficiaries. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]Servicemembers may be eligible for retirement after 20 years of active-duty service. Accordingly, military retirees are relatively young—the average age of retired servicemembers in fiscal year 2020 was about 46, according to the Department of Defense. See Department of Defense, Office of the Actuary, Statistical Report on the Military Retirement System; Fiscal Year Ended September 30, 2020, September 2021, p. 47.

[b]Includes guard and reserve members who are on active duty.

[c]Includes 154,486 spouses of active-duty servicemembers.

[d]Includes beneficiaries whose status was labeled as "other" or "unknown" in the data.

Our analysis of TRICARE data shows that the three most common categories of mental health diagnoses for TRICARE beneficiaries in a perinatal period were anxiety disorders, depressive disorders, and trauma- and stressor-related disorders (see table 2).[34] Within the trauma- and stressor-related disorder category, adjustment disorders were most common. Adjustment disorders are characterized by emotional or behavioral symptoms caused by stressors, including stressors specific to military life or the perinatal period, and do not last longer than 6 months after the stressor or its consequences have ended.[35] Officials from DHA's Psychological Health Center of Excellence said direct care providers may initially make an adjustment disorder diagnosis over a potentially career-impacting diagnosis like major depressive disorder for servicemembers.

[34]Within each category, there are numerous specific mental health diagnoses; for example trauma- and stressor-related disorders include disorders in which exposure to a traumatic or stressful event is listed explicitly as a diagnostic criteria, such as adjustment disorders and posttraumatic stress disorders.

[35]American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders: DSM-5,* 5th ed., (2013): 286-287.

Another DOD official said that non-mental health providers may prefer to defer making diagnoses like major depressive disorder or generalized anxiety disorder that have potential career impacts because they are less familiar with the diagnostic criteria for these disorders.[36]

**Table 2: TRICARE Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Diagnostic Category**

| Diagnostic category[a] | Number of perinatal periods | Prevalence (percent of total) |
|---|---|---|
| Anxiety disorders | 50,913 | 19.9 |
| Depressive disorders | 45,049 | 17.6 |
| Trauma- and stressor-related disorders[b] | 39,238 | 15.3 |
| Adjustment disorders | 32,781 | 12.8 |
| Substance-related and addictive disorders | 13,533 | 5.3 |
| Bipolar and related disorders | 3,673 | 1.4 |
| Psychosis | 3,307 | 1.3 |
| Suicide and intentional self-inflicted injury | 2,851 | 1.1 |
| Obsessive compulsive and related disorders | 1,499 | 0.6 |
| Other mental health conditions (not included above) | 14,951 | 5.8 |
| Multiple diagnoses (more than one of above categories) | 47,896 | 18.7 |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Data set includes 235,283 unique beneficiaries. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]Diagnostic categories are based on classifications from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, and are associated with ICD-10-CM diagnosis codes. See appendix I for a full list of codes in each diagnostic category. Perinatal periods can be represented in more than one diagnostic category. Because of this, values in the rows will not add up to the total number of perinatal periods with a mental health diagnosis (92,690).

[b]Trauma- and stressor-related disorders include disorders in which exposure to a traumatic or stressful event is listed explicitly as a diagnostic criteria, such as adjustment disorders and posttraumatic stress disorders.

[36]Certain mental health conditions, such as bipolar I disorder, are considered incompatible with military service. Other mental health conditions including, but not limited to, anxiety disorders and depressive disorders, are considered on a case-by-case basis, if, despite appropriate treatment, the conditions require persistent duty modification, or impair function so as to preclude satisfactory performance of required military duties. See Department of Defense Instruction, *Medical Standards for Military Service: Retention, Volume 2*, DoDI 6130.03-V2, September 4, 2020.

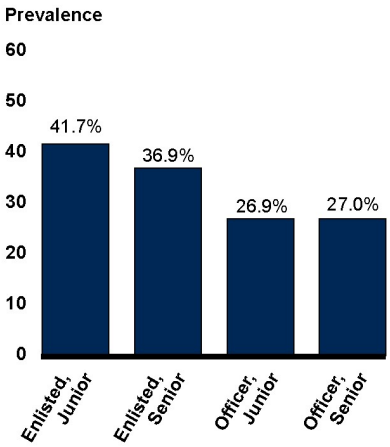
Our analysis of TRICARE data shows that beneficiaries with certain demographic characteristics experienced higher rates of perinatal mental health diagnoses (see fig. 2). Perinatal periods for beneficiaries (servicemembers and their dependents) associated with a rank of "junior enlisted" (which serves as a proxy for those at a lower socioeconomic level compared with those with other military ranks) had an almost 15 percent higher prevalence of mental health diagnoses than those associated with a rank of "senior officer."[37]

[37]For a previous TRICARE study that also used military rank of sponsor as a socioeconomic proxy, see: Tomas Andriotti et al., "Psychiatric Conditions during Pregnancy and Postpartum in a Universally Insured American Population," *Military Medicine*, 2021.

This is consistent with findings of previous studies of active-duty servicemembers, which showed that enlisted servicemembers experience post-traumatic stress disorder and postpartum depression at higher rates during the perinatal period than servicemembers with higher socioeconomic status. See Lisa M. Abramovitz et al., "Posttraumatic Stress Disorder in a Cohort of Pregnant Active-Duty U.S. Military Servicewomen," *Journal of Traumatic Stress*, vol. 34 (2021): 586-595, and Juliann H. Nicholson et al., "Examining Rates of Postpartum Depression in Active-Duty U.S. Military Servicewomen," *Journal of Women's Health,* vol. 29, no. 12 (2020).

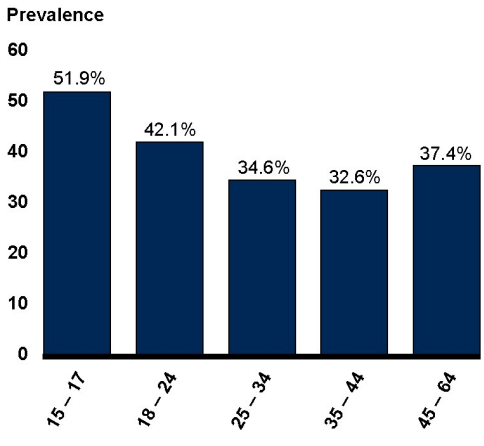
**Figure 2: TRICARE Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Various Demographics**

**Rank of Military sponsor (socioeconomic indicator)[a]**



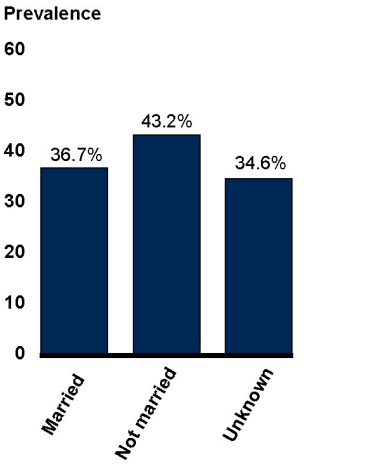

| | Enlisted, Junior | Enlisted, Senior | Officer, Junior | Officer, Senior |
|---|---|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 20,029 | 48,898 | 8,840 | 4,730 |

**Age of beneficiary**



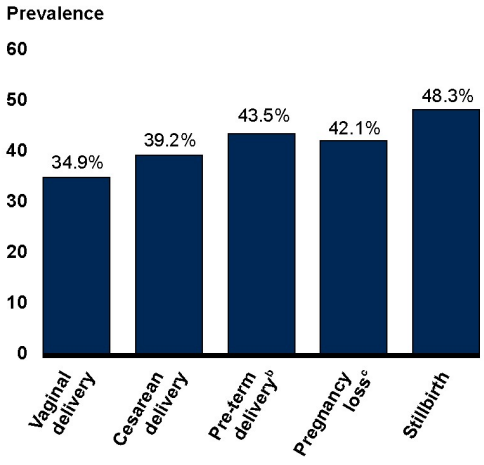

| | 15 – 17 | 18 – 24 | 25 – 34 | 35 – 44 | 45 – 64 |
|---|---|---|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 488 | 26,121 | 54,058 | 11,853 | 170 |

**Marital status[d]**




| | Married | Not married | Unknown |
|---|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 43,239 | 8,487 | 40,964 |

**Pregnancy outcome type**




| | Vaginal delivery | Cesarean delivery | Pre-term delivery[b] | Pregnancy loss[c] | Stillbirth |
|---|---|---|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 63,752 | 26,397 | 8,660 | 1,682 | 798 |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Data set includes 235,283 unique beneficiaries. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]The military rank of a sponsor applies to both the beneficiary holding the rank and their dependents. Lower ranks, such as "enlisted, junior," is a proxy for a lower socioeconomic status than higher ranks, such as "officer, senior."

[b]A pre-term delivery may be either a live vaginal or live cesarean delivery (not mutually exclusive) that was less than 37 weeks gestation age at time of delivery.

[c]We define pregnancy losses to include miscarriages, ectopic pregnancies, and abortions.

[d]Data for dependent beneficiaries for some Military Health System Data Repository variables are self-reported and not fully populated.

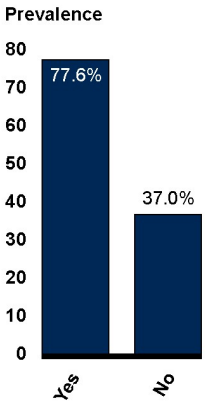
Beneficiaries at a lower socioeconomic level are more likely to be younger, and younger age is also correlated with higher prevalence of mental health diagnoses, according to our analysis of TRICARE data. Younger beneficiaries, particularly those under 18 years old, had the highest prevalence of perinatal mental health diagnoses.

## Prevalence of Mental Health Diagnoses among Active-Duty Perinatal Beneficiaries

Our analysis of TRICARE data indicated that particular groups of active-duty servicemembers had a higher prevalence of perinatal mental health diagnoses in the period we studied, such as those with a history of deployment or in particular demographic groups (see fig. 3).

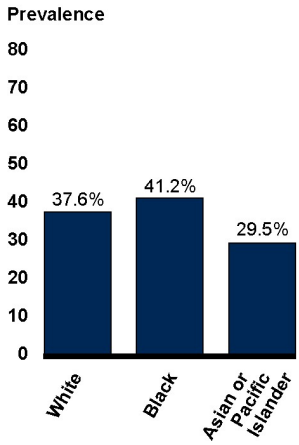
**Figure 3: TRICARE Active-Duty Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019**

**Personal history of deployment**[a]



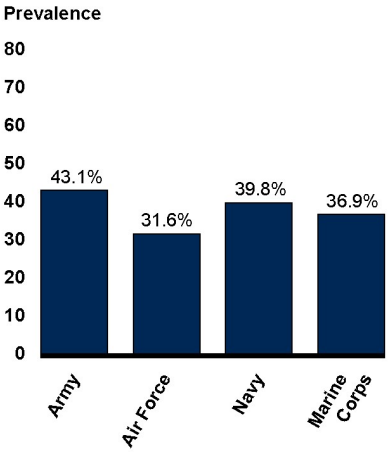

| | | |
|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 619 | 14,962 |

**Race**[b]




| | | | |
|---|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 8,101 | 4,338 | 634 |

**Military branch**[c]




| | | | | |
|---|---|---|---|---|
| Number of perinatal periods with a mental health diagnosis | 6,018 | 3,688 | 4,526 | 1,048 |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Data set includes 235,283 unique beneficiaries. This population had 41,195 active-duty servicemember perinatal periods, which includes Guard and Reserve members who are on active-duty. See appendix III for additional data not presented in this figure. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]This category includes perinatal periods with ICD-10-CM code Z91.82. We did not receive comprehensive deployment data, so this code likely only captures a subset of beneficiaries with a personal history of deployment. Since this code is specifically for "history" of deployment, the deployment likely occurred before the start of the perinatal period.

[b]The Military Health System Data Repository does not consistently include data on ethnicity, so we were unable to analyze prevalence for Hispanic beneficiaries specifically. Instead, Department of Defense officials said most Hispanics were likely recorded as being White.

[c]See appendix III for complete military branch prevalence data.

Our analysis shows that four of the five DOD occupations with the highest prevalence of perinatal mental health conditions among active-duty servicemembers were health care-related (see table 3). Other studies have found that DOD occupations in health care are diagnosed with mental health conditions during the perinatal period at a higher rate than most other occupations.[38] As reported in a 2015 DOD report, and according to DOD officials, the higher prevalence among some health care-related occupations may be associated with health care workers' increased awareness of perinatal mental health conditions, willingness to seek treatment, and easier access to supportive services. However, despite the general trend, some health care-related occupations were diagnosed with mental health conditions at lower rates than the average, including physicians (24.7 percent) and nurses (32.4 percent). (See appendix III for additional occupation prevalence results).

**Table 3: Five TRICARE Active-Duty Military Occupations with Highest Prevalence of Mental Health Diagnoses during Perinatal Periods for Pregnancy Outcomes in Fiscal Years 2017 through 2019**

| Military occupation[a] | Total number of perinatal periods | Prevalence (percent of total) |
|---|---|---|
| Veterinary medicine | 107 | 56.1 |
| Medical logistics | 139 | 54.0 |
| Biomedical laboratory services | 159 | 53.5 |
| Medical care and treatment, general | 2,163 | 51.5 |
| Communications radio | 364 | 50.3 |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Full data set includes 41,195 active-duty perinatal periods, which includes National Guard and Army Reserve members who are on active-duty. This table includes 2,932 perinatal periods; see appendix III for additional data not presented in this table. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]Only occupations with at least 100 total perinatal periods are included.

[38]See Kasi M. Chu et al., "Risk of Mental Health Disorders Following an Initial Diagnosis of Postpartum Depression, Active Component, U.S. Armed Forces, 1998-2010." *Medical Surveillance Monthly Report*, vol. 22, no. 6: 12 (2015) and Lisa M. Abramovitz et al., "Posttraumatic Stress Disorder in Military Servicewomen," 586-595.

# DOD Efforts to Screen and Treat TRICARE Beneficiaries for Perinatal Mental Health Conditions

## DOD Screening and Referrals

According to DOD's DHA, the agency encourages both direct care (typically offered in MTFs) and private sector care providers to use evidence-based practices like mental health screenings and making referrals for perinatal beneficiaries who may be at risk for such conditions. DHA officials told us that they cannot require or prescribe how individual providers conduct their clinical practice. Instead, DHA and MCSC officials described screening and referral guidelines they encourage direct and private sector care providers to use, including those from DOD and the Department of Veterans Affairs on the management of pregnancy or the management of depression, as well as those from the U.S. Preventative Services Task Force and the American College of Obstetricians and Gynecologists.[39] According to DOD and the Department of Veterans Affairs, the use of clinical guidelines should be considered a recommendation within the context of a provider's clinical judgment and patient values and preferences.

**Direct care.** Direct care providers we spoke with from the six MTFs in our review described using similar screening and referral protocols, including the following:

- screening all perinatal patients using the Edinburgh Postnatal Depression Scale tool at 3 times—typically, (1) at initiation of obstetric

[39]See for example, *VA/DOD Clinical Practice Guideline for the Management of Pregnancy: Clinician Summary*, 2018. Other screening and treatment guidelines obstetric providers may use include those from the American College of Nurse Midwives and the American Association of Family Physicians. Clinical practice guidelines are intended to inform best clinical practices; however, such guidelines do not represent a standard of care.

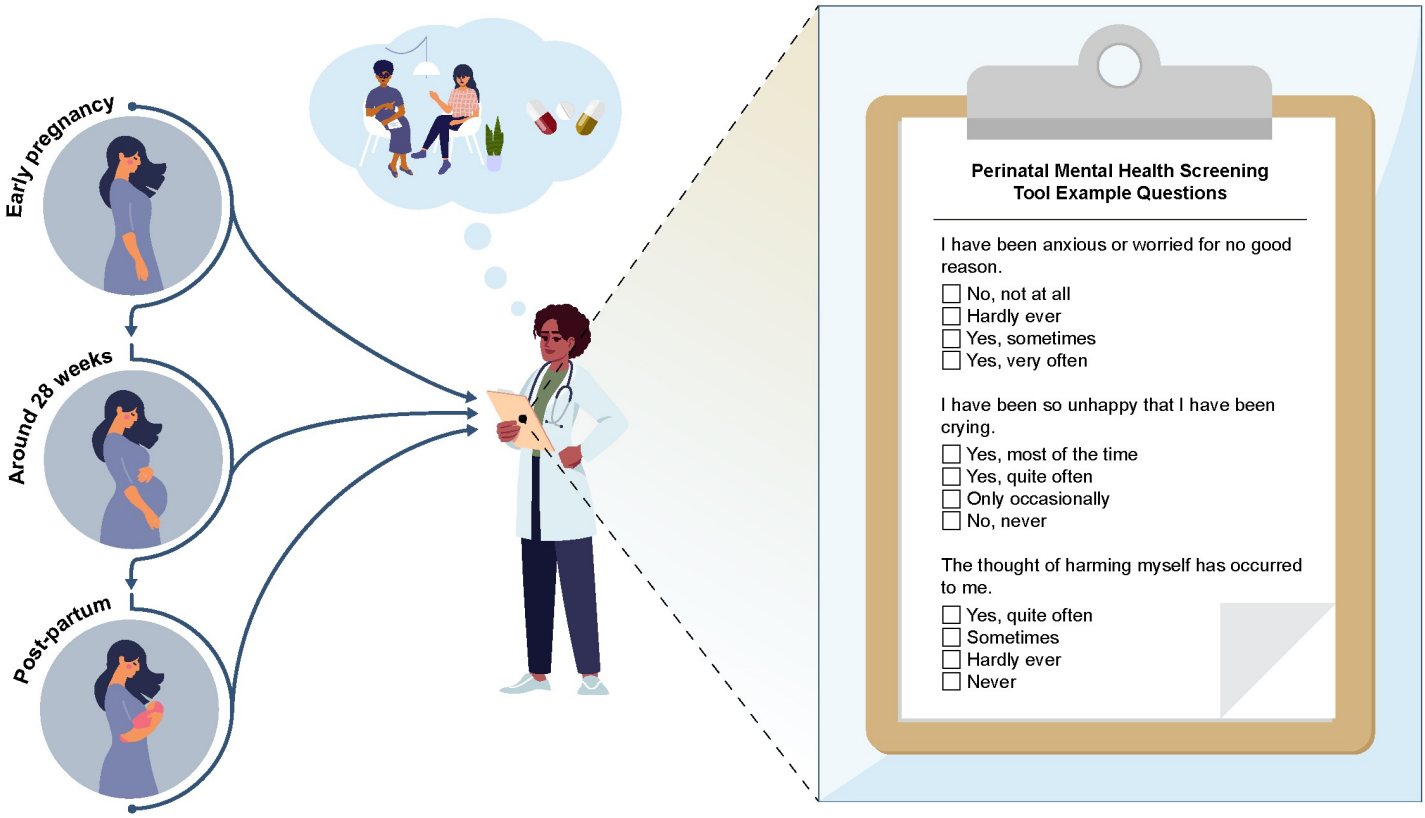
care, (2) around 28 weeks of pregnancy, and (3) at the postpartum visit 6-8 weeks after delivery.[40] (See fig. 4.)

- using additional screening tools in some instances to further assess the mental health needs of beneficiaries with positive screens resulting from the Edinburgh Postnatal Depression Scale tool. For example, providers may also screen beneficiaries having scores of 12 or more on the tool with an additional screening using the Generalized Anxiety Disorder-7 assessment to check for anxiety symptom severity.[41]

[40]Beneficiaries may also be screened by other providers, such as a pediatrician, during their baby's well-child visits in the first year postpartum, according to two direct care providers. The Edinburgh Postnatal Depression Scale tool is one of several screening instruments validated for using during the perinatal period, most frequently used in the research setting and in clinical practice. The scale consists of 10 self-reported questions that take less than 5 minutes to complete, and has been translated into 50 different languages.

[41]See Edinburgh Postnatal Depression Scale screening tool at https://psychology-tools.com/test/epds. Accessed April 4, 2022. Providers may use questions 3, 4 and 5 of the tool to assess anxiety symptoms. Scores range from 0-30. See GAD-7 at https://psychology-tools.com/test/gad-7. Accessed March 30, 2022.

**Figure 4: Overview of Direct Care Screening Processes TRICARE Beneficiaries May Encounter during the Perinatal Period**




Source: GAO analysis of Department of Defense and Department of Veterans Affairs guidelines, direct care provider interviews (data), and the Edinburgh Postnatal Depression Scale screening tool; Tanya/OlgaStrelnikova/bsd studio/stock.adobe.com (images). | GAO-22-105136

Note: We define the perinatal period as the start of pregnancy up to 1 year postpartum.

Direct care providers said beneficiaries' mental health needs may be identified based on screening results or discussion with the beneficiary. If mental health needs are indicated, providers may refer beneficiaries to a variety of behavioral health care supports, depending upon the intensity of the beneficiaries' mental health care needs and their TRICARE health

plans.[42] For example, direct care providers told us they triage beneficiaries with higher-level needs through referrals to specialty mental health providers (e.g., psychiatrists, clinical psychologists, licensed clinical social workers) or through care coordination with the patient's primary care manager.[43]

Particular responses from beneficiaries during screenings, such as positive responses to a question on the screening tool on suicidal ideation (thoughts of harm to self), may warrant specific assessments for risk for suicide, and possibly an urgent or emergent referral to behavioral health care, direct care providers told us. The providers also said they may conduct "warm handoffs"—care transitions from provider to provider that occur in front of the patient—for consultations with behavioral health consultants housed in primary care provider offices.[44]

A 2018 DHA quality improvement study on screening and assessment of maternal depression in a sample of direct care TRICARE beneficiaries found that 86 percent (154 of 180) of beneficiaries were screened.[45] Of these, 24 beneficiaries reported symptoms of depression (i.e., screened

[42]Active-duty servicemembers are TRICARE Prime beneficiaries and can access specialty mental health providers at the MTF if this care is available. Otherwise, active-duty servicemembers need a referral and prior authorization to access specialty mental health care in private sector care. Dependent TRICARE Prime and Select beneficiaries are directed to seek specialty mental health care services in private sector care because MTFs prioritize such care for active-duty servicemembers.

[43]Situations requiring recommendation and referral for specialty mental health care are those meeting diagnostic criteria found in the American Psychiatric Association Diagnostic and Statistical Manual requiring clinical therapy (e.g., psychotherapy and/or pharmacotherapy treatment).

[44]Such a handoff of care allows patients to hear what is said and engages patients in communication, giving them the opportunity to clarify or correct information or ask questions about their care, according to the Department of Health and Human Services' Agency for Healthcare Research and Quality. In DOD's Primary Care Behavioral Health programs, behavioral health consultants may offer brief, solution-focused counseling to induce patient behavior change. These consultants do not provide evaluation and psychotherapy treatment.

[45]Of the 154 TRICARE beneficiaries screened for maternal depression at least once, 33 percent (51) had three or more documented screenings. DHA Clinical Quality Improvement Studies Working Group, *Screening for Maternal Depression among TRICARE Beneficiaries: A Quality Improvement Project,* 2018.

positive); all 24 were referred to specialty mental health care.[46] Screening and referral practices reported by direct care providers at the six MTFs in our review were generally consistent with these findings. Some of the five beneficiaries we spoke with reported varying screening and referral experiences in direct care. (See box below.)

**Examples of beneficiaries' varying experiences of perinatal mental health screenings in direct care**

- One beneficiary did not recall receiving mental health screenings during her prenatal visits. The beneficiary reported having a positive mental health screening result indicating depression symptoms at her postpartum visit. The provider asked her to come back for an appointment a few weeks later to take an additional screening.
- Another beneficiary reported receiving mental health screenings at every prenatal visit and discussing any symptoms of mental health conditions identified through the screening with women's clinic staff. The beneficiary told us her discussions with women's clinic staff were to assess how well she was managing her mental health symptoms.

Source: GAO interviews with TRICARE beneficiaries, 2021. | GAO-22-105136

**Private sector care.** Officials from one MCSC said that private sector care providers are to screen beneficiaries for mental health conditions like perinatal depression. However, providers may not submit claims for these screenings because screenings are to be included as part of the all-inclusive global obstetric care service.[47] Consequently, the MCSC cannot determine the frequency with which private providers conduct mental health screenings.[48] DHA officials explained that DHA does not direct how private sector care providers are to conduct their practices; instead, DHA policy states that it helps ensure good practices by seeking providers for

[46]In the DHA *Quality Improvement Project,* positive screenings on tools to assess maternal depression symptoms were defined as those having scores (a) greater than 10 on the Edinburgh Postnatal Depression Scale tool or (b) greater than 3 on the Patient Health Questionnaire-2 tool.

[47]Global obstetric care includes all attending physician or attending certified nurse-midwife services required during the course of the maternity episode. Any services rendered by office staff in support of the obstetrical professional's delivery of services are included in the price. *TRICARE Reimbursement Manual* 6010.61-M, April 1, 2015, Chapter 1, Sect. 18, *Professional Services: Obstetrical Care*.

[48]DHA officials reported not having ready access to medical records for TRICARE beneficiaries in private sector care.

participation in the TRICARE network who practice evidence-based medicine and have knowledge of military culture.[49]

Officials from the two TRICARE MCSCs told us that they use a risk-based case management approach to identify beneficiaries who may be at particular risk for perinatal mental health conditions. Specifically, the officials said that beneficiaries with pregnancy complications including mental health conditions, based on their health care claims and diagnostic history, may be placed in the high-risk pregnancy case management group.[50] Beneficiaries with such designated high-risk pregnancies may be at greater risk for perinatal depression or anxiety symptoms, according to MCSC officials.[51] These officials said that MCSC case management staff regularly screen high-risk pregnancy beneficiaries for potential perinatal mental health conditions.[52]

To assess how well high-risk beneficiaries are managing their mental health, MCSC officials told us that designated case managers regularly contact the beneficiaries and use formal mental health screening tools like the Edinburgh Postnatal Depression Scale or the Patient Health Questionnaire-2.[53] When high-risk beneficiaries indicate depression or anxiety symptoms through the screening, the case managers may refer the beneficiaries to the behavioral health care case managers for

[49]See Department of Defense, Defense Health Agency, *TRICARE Operations Manual 6010.59-M*, "Provider Networks, Chapter 5 Section 1, Network Development," April 1, 2015, revised September 20, 2019.

[50]A high-risk pregnancy is one in which the mother, her fetus, or both are at higher risk for health problems during pregnancy or labor than in a typical pregnancy, according to the National Institutes of Health's National Institute for Child Health and Human Development.

[51]MCSC officials told us conditions such as those associated with high-risk fetal surgeries commonly lead to beneficiaries getting a high-risk pregnancy case manager. Beneficiaries elect to participate in the high-risk pregnancy case management group.

[52]Officials from one MCSC told us beneficiaries are screened for potential mental health symptoms when entering the high-risk pregnancy case management program and after delivery.

[53]DOD policy recommends annual screenings for depression, and the Patient Health Questionnaire-2 (PHQ-2) tool is the recommended screening tool for this purpose, according to the policy. The PHQ-2 is a widely used two-question tool designed to facilitate recognition of depression in primary care patients; patients who screen positive for depressive symptoms on the PHQ-2 should be further assessed for severity of symptoms and risk.

additional support.[54] Officials from one MCSC told us their high-risk pregnancy and behavioral health care case managers may conduct a joint call with a beneficiary to assess symptom management and to help the beneficiary obtain additional support, such as specialty mental health care, as needed.

Two beneficiaries we spoke with described varying screening and referral experiences in private sector care. (See box below.)

Examples of beneficiaries' varying experiences of perinatal mental health screening and referral in private sector care

- One beneficiary reported being screened multiple times, including at every prenatal visit. The beneficiary told us her providers explained the screening's purpose and discussed her results. After a month of prescription medication treatment, the beneficiary returned to see her provider. The beneficiary's screening results were still high and she was not feeling well. The beneficiary's provider referred her to a different provider for additional care.
- Another beneficiary told us she did not recall being screened at any point during the prenatal or immediate postpartum period (i.e., 6-8 weeks postpartum). The beneficiary requested a depression screening from a different provider at nearly 3 months postpartum indicating positive results (i.e., depression symptoms). The beneficiary's provider gave her contact information for a local mental health therapist, an order for blood work, and a request for the beneficiary to follow-up with the primary care physician.

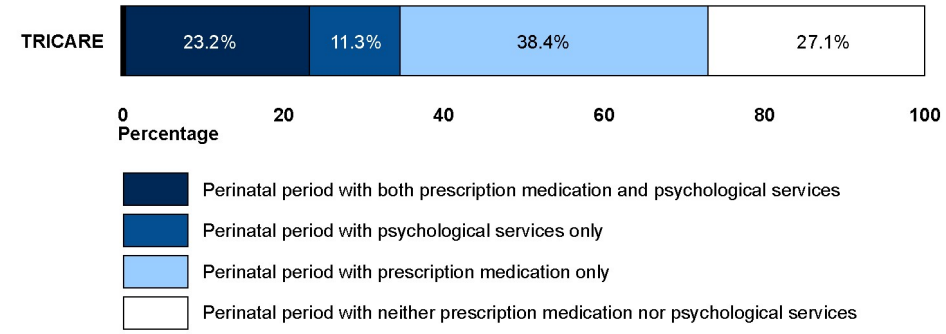
Source: GAO interviews with TRICARE beneficiaries, 2021. | GAO-22-105136

## Perinatal Mental Health Treatment for TRICARE Beneficiaries

Based on our analysis of administrative claims data for direct care and private sector care associated with pregnancy outcomes in fiscal years 2017-2019, we found that TRICARE beneficiaries who were diagnosed with a perinatal mental health condition obtained various types of treatment. For example, nearly three-quarters (72.9 percent) of these beneficiaries' perinatal periods included use of prescription medication, psychological services, or both for mental health conditions. See Figure 5.

[54]Beneficiaries electing to participate in the high-risk case management program must express a need for—and consent to—behavioral health care support before their high-risk pregnancy case manager can refer them to a behavioral health care case manager, according to TRICARE MCSC officials.

**Figure 5: Percentage of TRICARE Perinatal Periods for Pregnancy Outcomes in Fiscal Years 2017-2019 with a Mental Health Diagnosis That Had Prescription Medication or Psychological Services Treatment Claims**




Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: This figure is based on 92,690 perinatal periods including a mental health diagnosis. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

The most common type of prescription medication dispensed for perinatal mental health conditions was antidepressants. See Table 4.

**Table 4: Percentage of TRICARE Perinatal Periods for Pregnancy Outcomes in Fiscal Years 2017-2019 with Prescription Medications, by Therapeutic Class Code**

| Prescription medication therapeutic class code[a] | Percentage of perinatal periods |
|---|---|
| Antidepressants | 21.3 |
| Anxiolytics, sedatives, and hypnotics; misc. | 8.3 |
| Benzodiazepines (anxiolytics, sedatives, and hypnotics) | 4.7 |
| Amphetamines | 2.0 |
| Antipsychotic agents | 1.1 |
| Anticonvulsants received for bipolar disorders | 0.5 |
| Antimanic agents | 0.1 |
| Barbiturates (anxiolytics, sedatives, and hypnotics) | 0.0[b] |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: There were 256,014 perinatal periods included in our data set, with 235,283 unique beneficiaries. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]Therapeutic class codes are groups of pharmaceutical agents that are similar in chemical structure, pharmacological effect, and/or clinical use.

[b]The actual percentage of barbiturates was .0043, which we present in the table, rounded, as 0.0 percent.

We found TRICARE beneficiaries who may need treatment for perinatal mental health conditions can obtain care through a variety of settings based on their eligibility, needs, and local availability. Differences may

exist between available options for active-duty servicemembers and those available to their dependents. For example, according to TRICARE policies, active-duty beneficiaries may be able to access specialty mental health care—which include psychological services provided by a credentialed mental health provider—at an MTF.[55] In contrast, most spouses and dependents would be given lower priority for direct care at MTFs, and therefore may be more likely to receive care through private sector care.

The five beneficiaries we spoke with described individualized treatment experiences in direct and private sector care, based on what was available to them locally. Some of these beneficiaries sought initial care from their women's health providers, which they later supplemented with specialty mental health care. (See box below.)

**Example of a beneficiary experience of perinatal mental health evaluation and treatment in private sector care**

One beneficiary told us she first discussed potential treatment with her midwife after a positive postpartum screening, but did not pursue treatment at that time. She said she was given educational materials about non-clinical support resources. After a second postpartum positive screening result, the beneficiary later began pharmacotherapy with a low-dosage antidepressant prescribed by her midwife. Because this beneficiary continued to have elevated screening scores, her midwife referred her to another provider for additional care.

Source: GAO interviews with TRICARE beneficiaries, 2021. | GAO-22-105136

We found that whether beneficiaries receive direct or private sector care for mental health conditions, providers may offer various types of treatment. Direct care providers at the six MTFs in our review and officials from the two private sector care MCSCs described various approaches to treating beneficiaries with potential perinatal mental health conditions.

**Direct care.** Direct care providers from the six MTFs in our review said some obstetric providers may be comfortable offering pharmacotherapy prescriptions to beneficiaries in some instances where screening

[55]According to TRICARE policies, in instances when MTF cannot provide the services or care requested, the patient will be referred to a private sector provider. Humana Military, *TRICARE Provider Handbook East Region 2021*. HealthNet Federal Services, *TRICARE West Region Provider Handbook 2019*. In addition, a 2020 report by the DOD Inspector General found that the department did not consistently meet outpatient mental health access to care standards, and delays in mental health access to care may have jeopardized patient safety and active-duty servicemember readiness. Department of Defense, Inspector General, *Evaluation of Access to Mental Health Care in the Department of Defense*, DODIG-2020-112 (Alexandria, Va.: August 2020).

indicated symptoms of mental health conditions. The providers said that, alternatively, for beneficiaries with higher-level mental health needs, obstetric providers may instead refer these patients to specialty mental health providers, such as clinical psychologists or psychiatrists, for further evaluation prior to treatment.[56] Based on our interviews with providers at MTFs and DHA officials, we found that some MTFs have practices or programs that may facilitate access to perinatal mental health treatment for TRICARE beneficiaries. For example:

- **Mental health services within women's health clinics.** In our interviews with providers from selected MTFs, we learned that some MTFs offer mental health care services within their women's health clinics, which can facilitate access to treatment for beneficiaries with perinatal mental health conditions. Two of the six MTFs in our review offered mental health care in their women's health clinics. Specifically, one of these MTFs has an obstetric provider with specialized training in treating patients with perinatal mental health conditions, and the other has mental health providers on site to provide counseling and assessment. (See box below.) Providers from one MTF told us that such services reduce the barrier of stigma. One DOD official said this could reduce stigma particularly for active-duty beneficiaries because patients would not be seen going to mental health clinics. DHA officials told us that they do not track which MTFs have women's health clinics that offer mental health care, because individual MTFs generally handle staffing of individual clinics.

**Examples of mental health care within women's health clinics at military treatment facilities (MTF)**

- Within its women's clinic, the Fort Bliss MTF (Fort Bliss, Texas) offers coordinated care for patients with perinatal mental health needs. A Fort Bliss provider told us three of the women's health providers at Fort Bliss provide routine perinatal care for women with pre-existing mental health conditions on medication (i.e., pharmacotherapy) that may need to be monitored or changed during pregnancy. One of these providers obtained specialized training and certification in perinatal mental health.
- Direct care providers from Walter Reed National Military Medical Center (Bethesda, Md.) told us their women's health clinic has a clinical psychologist and clinical social worker integrated into the clinic, to whom patients may be referred after a positive screening.

Source: GAO interviews with MTF providers, 2021. | GAO-22-105136

[56]Beneficiaries with more significant needs typically receive additional care from specialty mental health care providers, such as licensed clinical social workers, clinical psychologists, or psychiatrists. These specialty mental health providers assess and diagnose patients' mental health needs through a formal mental health evaluation and, if necessary, devise a treatment plan, which may include pharmacotherapy and/or psychotherapy. TRICARE. *Mental Health and Substance Use Disorder Services (2019)*.

- **Primary Care Behavioral Health program.** Some MTFs have a program in which behavioral health care staff are placed in primary care settings. A provider from one of the MTFs in our review told us how such placement could facilitate access to behavioral health providers for some perinatal beneficiaries seeking mental health care through MTFs. DHA officials said behavioral health staff participating in the program have an "open-door" policy and can receive direct referrals from a women's health clinic providers or from self-referrals (e.g., beneficiaries seeking care). However, they also acknowledged that some women's health clinic providers might not know about the program or how to refer patients to it.[57]

**Private sector care.** Less is known about perinatal mental health treatment practices in private sector care, and DHA has plans to work with the MCSCs to learn more. At the request of DHA, the two MCSCs each began conducting a focused review in January 2022 to assess the use and frequency of mental health screening tools in prenatal and postpartum populations in primary care and obstetrical care. According to documentation provided by DHA, the review will also assess provider management of patients with identified need for further evaluation as a result of screening, which could include treatment. Once complete, MCSC officials said that results of the focused review will help shape interventions that involve provider and beneficiary education and that the MCSCs will work with DHA on such interventions. The MCSCs' respective reviews are due to DHA in August 2022.

## Agency Comments

We provided a draft of this report to DOD for review and comment. DOD provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-7114 or HundrupA@gao.gov. Contact points for our

[57]Per DOD policy, behavioral health staff are required in primary care settings with a minimum number of enrolled beneficiaries, but not every MTF has behavioral health staff in their primary care setting currently. DHA officials said that some slots were vacant as of November 2021. DOD policy requires that primary care clinics with a minimum of 3,000 enrolled beneficiaries have at least one full-time behavioral health consultant on staff. See Department of Defense, *Integration of Behavioral Health Personnel (BHP) Services Into Patient-Centered Medical Home (PCMH) Primary Care and Other Primary Care Service Settings*, DODI 6490.15 (effective November 20, 2014).

Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

Alyssa M. Hundrup
Director, Health Care

# Appendix I: Objectives, Scope, and Methodology

The objectives of our report were to: (1) describe the prevalence of perinatal mental health conditions among TRICARE beneficiaries; and (2) describe Department of Defense (DOD) efforts to screen and treat perinatal mental health conditions in TRICARE beneficiaries.

## Prevalence Data Analysis

To describe the prevalence of perinatal mental health conditions among TRICARE beneficiaries, we analyzed data from the Military Health System (MHS) Data Repository (MDR) associated with pregnancy outcomes for fiscal years 2017 to 2019. We began the period of our review in fiscal year 2017 to align with the consistent use of updated billing codes and ended with fiscal year 2019, the latest year we could include with complete data for the full year of the postpartum period. Specifically, we obtained MDR corporate health care data files, which included inpatient and outpatient files for direct and private sector care with demographic information linked to the Defense Enrollment Eligibility Reporting System (a DOD information database in which all beneficiaries are required to register to have access to TRICARE and other benefits).

We worked with a DOD contractor responsible for MDR data requests to identify pregnancy outcomes, including live delivery and pregnancy loss outcomes, by looking for select medical billing codes (see table 5).[1] The DOD contractor calculated the start of a pregnancy by using gestational age diagnosis codes found on the pregnancy outcome encounter, or by estimating a 40-week pregnancy for live delivery outcomes or a 24-week pregnancy for pregnancy loss outcomes in the absence of gestational age information. If a beneficiary had more than one pregnancy outcome between fiscal years 2017 and 2019, we also included such additional pregnancy outcomes when calculating prevalence.

For the purposes of this report, we defined the perinatal period as the estimated start of the pregnancy up until 1 year postpartum, or until the start of another pregnancy. Given that the start of an additional pregnancy may have overlapped with the postpartum period from a previous perinatal period, some perinatal periods had postpartum periods shorter than one year.

After reviewing the data, we excluded 443 perinatal periods due to coding quality concerns—records for these perinatal periods had a delivery code with a gestation age code of less than 20 weeks (indicating that these

[1]We worked with the DOD contractor and an internal clinical expert to select and verify the inclusion of particular codes.

were not viable pregnancies and therefore should not be counted as deliveries). We also excluded 32 perinatal periods with pregnancy outcomes occurring less than 6 weeks after a previous pregnancy outcome due to quality concerns, because most nonlactating women are not fertile again until 6 weeks after a pregnancy outcome.[2]

**Table 5: Medical Claims Codes Used to Identify TRICARE Pregnancy Outcomes, Fiscal Years 2017 through 2019**

| Pregnancy outcome type | Claims Codes (fiscal years applicable) |
|---|---|
| Live pregnancy outcomes | |
| MS-DRG[a] | 765, 766, 767, 768, 774, 775 (2017-2018); 762, 763, 764, 768, 771, 772, 773, 783, 784, 785, 805, 806, 807 (2019) |
| CPT[b] | CCS categories 133-137[c] |
| Non-live pregnancy outcomes | |
| MS-DRG | 770, 779 (2017-2019); 777 (2017-2018) |
| CPT | CCS categories 122 and 126 |
| ICD-10-CM (stillbirths)[d] | Z371, Z374, Z377 |

Source: GAO analysis of claims codes. | GAO-22-105136

[a]Pregnancy outcomes identified with these live pregnancy outcome Medicare Severity Diagnosis Related Groups (MS-DRG) that also had a stillbirth diagnosis code (Z371, Z374, Z377) were reclassified as non-live pregnancy outcomes.

[b]Current Procedural Terminology (CPT) codes are used by providers to bill for outpatient or office procedures.

[c]Clinical Classifications Software (CCS) is a classification system of the Department of Health and Human Services' Agency for Healthcare Research and Quality that is used to aggregate and evaluate conditions with many corresponding claims codes, such as various pregnancy outcomes.

[d]All pregnancy outcomes were originally identified by either a MS-DRG or CPT code. If an International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) stillbirth code was present, the pregnancy outcome was classified as a non-live pregnancy outcome regardless of what MS-DRG or CPT was used to originally identify the pregnancy outcome.

For purposes of our analysis, we defined perinatal mental health diagnoses as any mental health diagnosis code occurring during the perinatal period. Mental health diagnosis codes included any mental, behavioral, or neurodevelopmental disorder diagnosis code (codes starting with 'F') or suicide and intentional self-inflicted injury code from the *International Classification of Diseases, Tenth Revision, Clinical*

[2]Emily Jackson and Anna Glasier, "Return of Ovulation and Menses in Postpartum Nonlactating Women", *Obstetrics and Gynecology*, vol. 117, no. 3 (March 2011).

*Modification* (ICD-10-CM) (see table 6).[3] We included all mental health conditions found during the perinatal period, including conditions that may have had initial onset outside of the perinatal period and conditions that may be in remission.

**Table 6: Medical Codes Used to Identify Mental Health Diagnoses in TRICARE Perinatal Periods with Pregnancy Outcomes, Fiscal Years 2017 through 2019**

| Diagnostic category[a] | ICD-10-CM diagnosis codes[b] |
|---|---|
| Anxiety disorders | F06.4, F40, F41, F93.0, F94.0 |
| Depressive disorders | F06.31, F06.32, F06.34, F32, F33, F34.1, F34.81, F53, F53.0 |
| Trauma- and stressor-related disorders | F43, F94.1, F94.2 |
| Substance-related and addictive disorders | F1, F63.0 |
| Bipolar and related disorders | F06.33, F06.34, F31, F34.0 |
| Psychosis | F06.0, F06.2, F23, F34.9, F39, F53.1 |
| Suicide and intentional self-inflicted injury[c] | X71-X83, T36–T50 with the 6th character of the code = 2 (except for T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T45.9, T47.9, and T49.9, which are included if the 5th character of the code = 2), T51–T65 with the 6th character of the code = 2 (except for T51.9, T52.9, T53.9, T54.9, T56.9, T57.9, T58.0, T58.1, T58.9, T59.9, T60.9, T61.0, T61.1, T61.9, T62.9, T63.9, T64.0, T64.8, and T65.9, which are included if the 5th character of the code = 2), T71 with the 6th character of the code = 2, T14.91, and R45.851 |
| Obsessive compulsive and related disorders | F06.8, F42, F45.22, F63.3 |
| Other mental health conditions | Any code starting with 'F' not indicated above |

Source: GAO analysis of medical codes. | GAO-22-105136

[a]Diagnostic categories are based on groupings from the Diagnostics and Statistical Manual of Mental Disorders, fifth revision (2013) and include subsequent updates.

[b]International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM).

[c]The Suicide and Intentional Self-Inflicted Injury codes include the codes used in a Centers for Disease Control and Prevention study, in addition to the code for suicidal ideation (R45.851). See Holly Hedegaard et al., "Issues in Developing a Surveillance Case Definition for Nonfatal Suicide Attempt and Intentional Self-harm Using International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Coded Data," National Health Statistics Reports, no. 108 (2018).

We also analyzed MDR data for mental health-related prescriptions dispensed and psychological services provided. We identified mental health-related prescriptions dispensed during the perinatal period by requesting select Therapeutic Class Codes chosen based on drug

[3]For suicide attempts and self-inflicted injury codes used see: Holly Hedegaard et al., "Issues in Developing a Surveillance Case Definition for Nonfatal Suicide Attempt and Intentional Self-Harm Using International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Coded Data," *National Health Statistics Report,* Number 108 (February 2018): 3. We also added the ICD-10-CM code for suicidal ideation (R45.851) to this category.

categories typically used to treat mental health conditions. We identified psychological services through Current Procedural Terminology (CPT) and *International Classification of Disease, Tenth Revision, Procedure Coding System* (ICD-10-PCS) procedure codes found during the perinatal period from the Department of Health and Human Services' Agency for Healthcare Research and Quality's Clinical Classifications Software (CCS) category for psychological and psychiatric evaluation and therapy (see table 7).[4]

**Table 7: Procedure Claims Codes Used to Identify Mental Health Treatment in TRICARE Perinatal Periods with Pregnancy Outcomes, Fiscal Years 2017 through 2019**

| Treatment type | Classification system | Procedure claims codes |
|---|---|---|
| Mental health-related prescriptions | Therapeutic Class Codes[a] | 281600 Psychotherapeutic agents; |
| | | 281604 Antidepressants; |
| | | 281608 Antipsychotic agents; |
| | | 281612 Psychotherapeutic agents, misc.; |
| | | 282000 Anorexigenic agents and respiratory and cerebral stimulants; |
| | | 282004 Amphetamines; |
| | | 282092 Anorexigenic agents and respiratory and cerebral stimulants, misc.; |
| | | 282400 Anxiolytics, sedatives and hypnotics; |
| | | 282404 Barbiturates (anxiolytic, sedatives, hypnotics); |
| | | 282408 Benzodiazepines (anxiolytic, sedatives, hypnotics); |
| | | 282492 Anxiolytics, sedatives, and hypnotics; misc.; |
| | | 282800 Antimanic agents |
| | | Therapeutic Class Codes that we only used if a bipolar disorder diagnosis code was found for that perinatal period[b] |
| | | 281200 Anticonvulsants; |
| | | 281204 Barbiturates (anticonvulsants); |
| | | 281208 Benzodiazepines (anticonvulsants); |
| | | 281212 Hydantoins; |
| | | 281216 Oxazolidinediones; |
| | | 281220 Succinimides; |
| | | 281292 Anticonvulsants, misc. |

[4]CCS is a classification system used to aggregate and evaluate conditions with many corresponding claims codes such as various pregnancy outcomes. CCS categories collapse codes into clinically meaningful categories that can be more useful for presenting descriptive statistics than individual codes. For ICD-10-PCS, 77,000 procedure codes are collapsed into 224 mutually exclusive CCS categories.

| Treatment type | Classification system | Procedure claims codes |
|---|---|---|
| Psychological services | Clinical Classifications Software, category 218 (psychological and psychiatric evaluation and therapy)[c] | Current Procedural Terminology (CPT) codes: 0359T-0374T, 90785-90785, 90791-90792, 90801-90899, 95883-95883, 96100-96103, 96116-96161, 97151-97158, 99178, 99484, 99492-99494, G0409, G0410, G0411, G0444, G0502, G0503, G0504, G0507, G0512, H0031, H0032, H0035, H0036, H0037, H0046, H2013, H2017, H2018, H2027, H2028, H2029, H2030, H2031, H2032, H2033, H2037, M0064, S9480, S9484, S9485, T1040, T1041<br>International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) codes: 8E0ZXY5, GZ10ZZZ, GZ11ZZZ, GZ12ZZZ, GZ13ZZZ, GZ14ZZZ, GZ2ZZZZ, GZ3ZZZZ, GZ50ZZZ, GZ51ZZZ, GZ52ZZZ, GZ53ZZZ, GZ54ZZZ, GZ55ZZZ, GZ56ZZZ, GZ58ZZZ, GZ59ZZZ, GZ60ZZZ, GZ61ZZZ, GZ63ZZZ, GZ72ZZZ, GZB0ZZZ, GZB1ZZZ, GZB2ZZZ, GZB3ZZZ, GZB4ZZZ, GZC9ZZZ, GZFZZZZ, GZGZZZZ, GZHZZZZ, GZJZZZZ |

Source: GAO analysis of claims codes. | GAO-22-105136

[a]Therapeutic class codes are groups of pharmaceutical agents that are similar in chemical structure, pharmacological effect, and/or clinical use. These codes are from the American Hospital Formulary Service-Pharmacologic Therapeutic Classification System by the American Society of Health-System Pharmacists.

[b]A bipolar disorder diagnosis code is defined as any code starting with 'F31' from the International Classification of Diseases, 10th revision, Clinical Modification.

[c]Clinical Classification Software is a classification system of the Department of Health and Human Services' Agency for Healthcare Research and Quality used to aggregate and evaluate conditions with many corresponding claims codes, such as various pregnancy outcomes. The description for category 218 that we used is "psychological and psychiatric evaluation and therapy."

In addition, we used the MDR data to analyze prevalence of perinatal mental health diagnoses by specific demographic groups. For example, demographics we analyzed and ways we presented these analyses included

- age, grouped according to MDR organization;
- race for active-duty beneficiaries only, due to incompleteness and concerns of dependents' race data for other beneficiaries;
- beneficiary category—we grouped active-duty Guard and Reserve members along with other active-duty servicemembers;
- military occupation—we reported on occupation codes with at least 100 perinatal periods found in our period of interest; and
- military rank of sponsor, used as a proxy for socioeconomic status; we limited this analysis to enlisted and officer ranks as proxies for low and high socioeconomic status, respectively.

## Data Reliability

To assess the reliability of the data we obtained from the MDR, we reviewed related documentation, including the data dictionary associated

with the MDR; interviewed knowledgeable officials (from both DOD and the DOD contractor); and conducted electronic and manual data testing to look for missing or erroneous data. Our use of ICD-10-CM data to identify mental health conditions means any conditions not diagnosed or accurately reported would not appear in the data set, which may underrepresent the true prevalence of perinatal mental health conditions.

The DOD contractor that provided MDR data recommended we exclude perinatal periods contained in DOD's new electronic health record, MHS GENESIS, given difficulties in linking diagnosis and procedure codes from these records. Based on this recommendation, we excluded from our data analysis MHS GENESIS records, which consisted of records from one military treatment facility (MTF)—a military-run hospital or clinic—during the time period we evaluated. Based on our review described above, we found the data sufficiently reliable for the purposes of reporting prevalence of mental health conditions among perinatal TRICARE beneficiaries.

## Literature Review

To provide context for the findings of our data analysis, we sought a data source with comparable information on the prevalence of perinatal mental health conditions for the general U.S. population. However, we found no single database contained comprehensive data on the general population comparable to the TRICARE claims data we analyzed. Therefore, we conducted a literature review to identify diagnosis information on perinatal mental health conditions in the general population.

We identified literature, including peer-reviewed journal articles, government reports, and a working paper, through a database search using various search terms related to perinatal mental health and prevalence data.[5] We initially identified 371 articles in our search. We reviewed the abstracts for those articles, and identified 31 articles of potential relevance. We reviewed the full text of the 31 articles. None of the 31 articles used diagnosis code data to identify perinatal mental health conditions in a manner comparable to the diagnosis data we received for TRICARE beneficiaries. Due to these limitations, we were unable to make a comparison of our findings on the TRICARE population

[5]Our databases searched include Scopus, ProQuest Health & Medical Collection; CINAHL Plus with Full Text, Medline, HSELINE, PAIS International, Embase®, EMCare®, etc. Our search parameters included literature published from 2011 through mid-2021 (when we initially conducted our search), to obtain a recent and robust selection for our review. Search terms included, for example: prenatal, postpartum, perinatal, mental, depression, disorder, prevalence, data, and estimate.

to the general population. We instead used the literature we identified to provide contextual information.

## Screening and Treatment

To describe DOD efforts to screen and treat perinatal mental health conditions in TRICARE beneficiaries, we reviewed DOD documents and policies, and interviewed officials from DOD's Defense Health Agency (DHA), which oversees the TRICARE program. Specifically, we reviewed DHA and TRICARE policies and documents related to perinatal mental health, relevant clinical practice guidelines, and past GAO and DOD Inspector General reports on related topics.

Additionally, we interviewed several groups of DHA officials involved in the administration of direct care provided at MTFs and the private sector care network of providers that participate in TRICARE. In particular, we interviewed officials from two of DHA's clinical communities, which have responsibilities for creating and adopting leading care practices for their respective clinical specialties that can be standardized across the military health system.[6] We also interviewed officials from DHA's Medical Affairs and TRICARE Health Plan program offices who are responsible for providing and maintaining readiness for medical services and support to those entitled to or eligible for DOD medical care and benefits, including awarding, and overseeing contracts with the TRICARE managed care support contractors.

We selected these groups based on their knowledge of relevant information and their ability to describe DHA's efforts to address prenatal mental health conditions in direct and private sector care TRICARE beneficiaries. Our interviews with DHA officials gathered information on practices TRICARE providers may use to screen and provide treatment to beneficiaries with potential perinatal mental health conditions. We also interviewed officials from three outside organizations with expertise on perinatal mental health or the needs of TRICARE families, including Postpartum Support International.[7]

To obtain information about how providers screen and treat TRICARE beneficiaries, we interviewed direct care providers from women's health clinics at six MTFs. Specifically, we interviewed officials from five MTFs

[6]Specifically, we interviewed DHA officials from the Women and Infant Clinical Community and the Behavioral Health Clinical Community. Our interviews also included officials from related clinical management teams, and the Primary Care Behavioral Health program.

[7]We also interviewed officials from the Military Family Advisory Network and 2020 Mom.

selected based on a high number of total deliveries in fiscal years 2017 through 2020, and variation in service branch and location. We also interviewed an official from an additional MTF who was referred to us by a DHA official. We also interviewed officials from the two managed care support contractors to gather information on screening and treatment practices of the private sector care network of providers participating in TRICARE. In addition, we held individual discussions with five beneficiaries—all of whom were military spouses—about their experiences with screening and treatment for perinatal mental health conditions, in both direct care and private sector care.[8] Our interviews with direct care providers and military spouses are not generalizable, but rather provide illustrative examples of perinatal mental health care in TRICARE.

We conducted this performance audit from April 2021 to May 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

[8]We identified a 'military moms' support group operated by Postpartum Support International and worked with officials from that organization to recruit interview volunteers for group discussions. We selected the support group as the primary recruitment tool because participation in this group is voluntary, indicating that participants are comfortable discussing their personal experiences in a group setting; participants are familiar with online technology for group meetings; and the organizers of the group have an efficient mechanism for outreach to our population of interest.

# Appendix II: Potential Barriers to Perinatal Mental Health Care

To identify potential barriers to perinatal mental health care in general, we conducted a review of literature. In addition, to further understand and learn about potential barriers specific to TRICARE beneficiaries, we interviewed selected beneficiaries, providers, and others with expertise about perinatal mental health in the military health population.

We identified literature, including peer-reviewed journal articles, through a database search using various search terms related to perinatal mental health and barriers to care.[1] Our literature review was not limited to publications specific to the TRICARE population. Specifically, we conducted a multi-stage process to identify potential barriers, including a two-stage screening process of the literature where (1) two independent reviewers reviewed abstracts for search results to identify the articles for full review, and (2) two independent reviewers reviewed 63 full articles to determine relevance for inclusion, resulting in 35 articles included in the review. Two independent reviewers coded the 35 articles to identify potential barriers, meeting to discuss and reconcile any discrepancies in coding.

Tables 8 and 9 list the potential barriers we identified in our literature review, for beneficiaries and providers, respectively.

**Table 8: Barriers to Beneficiaries Seeking or Obtaining Treatment for Perinatal Mental Health Conditions Identified through a Literature Review**

| Barrier | Number of Articles |
|---|---|
| Stigma—work-related and non-work related | 18 |
| Lack of provider availability or responsiveness | 16 |
| Other | 15 |
| Lack of health insurance or cost concerns | 11 |
| Unmet patient preferences (e.g., privacy concerns) | 10 |
| Difficulty getting to appointments (e.g., lack of transportation or childcare) | 9 |
| Lack of knowledge about mental health issues | 7 |
| Lack of social support | 7 |
| Health literacy gaps | 6 |

Source: GAO literature review. | GAO-22-105136

[1]Our databases searched include Scopus, ProQuest Health & Medical Collection; CINAHL Plus with Full Text, Medline, HSELINE, PAIS International, Embase®, EMCare®, etc. Our search parameters included literature published from 2011 through mid-2021 (when we initially conducted our search), to obtain a recent and robust selection for our review.

Note: These barriers were identified based on review of 35 relevant articles. The number of articles does not necessarily reflect the ranked importance or extent that TRICARE beneficiaries encounter a barrier when seeking or obtaining treatment for perinatal mental health conditions. Instead, the barriers listed above provide descriptive information on what is reported in the literature.

**Table 9: Barriers to Providers in Delivering Treatment for Perinatal Mental Health Conditions Identified through a Literature Review**

| Barrier | Number of Articles |
|---|---|
| Lack of provider recognition of, or training in, identifying & managing perinatal mental health issues | 13 |
| Lack of information about perinatal mental health services available / provided | 9 |
| Lack of provider discussion and screening for perinatal mental health issues | 8 |
| Limited time at appointments | 7 |

Source: GAO literature review. | GAO-22-105136

Note: These barriers were identified based on review of 35 relevant articles. The number of articles does not necessarily reflect the ranked importance or extent that TRICARE beneficiaries encounter a barrier when seeking or obtaining treatment for perinatal mental health conditions. Instead, the barriers listed above provide descriptive information on what is reported in the literature.

We also identified several potential barriers that TRICARE beneficiaries may encounter, based on our interviews with beneficiaries, direct care providers, and others with relevant expertise, which were generally consistent with the barriers identified through our literature review. For example, we heard about potential barriers faced by TRICARE beneficiaries, including

- **Limited availability of mental health providers.** As discussed, mental health provider options differ based on the type of beneficiary seeking care. In particular, specialty mental health care at military treatment facilities (MTF) can be limited to active-duty beneficiaries, while dependent beneficiaries who need such treatment are generally referred to private sector care and may not be able to receive care as quickly or as precisely suited to their needs.[2] For example, providers at one MTF said that beneficiaries who are referred to the TRICARE network may be referred to "a random community psychiatrist who

[2]A 2020 report by the DOD Inspector General previously found that the department did not consistently meet outpatient mental health access to care standards, and delays in mental health access to care may have jeopardized patient safety and active-duty servicemember readiness. In particular, the report found that the private sector care referral process left patients responsible for making appointments using an inaccurate online provider directory, which complicated access and delayed care. Department of Defense, Inspector General, *Evaluation of Access to Mental Health Care in the Department of Defense*, DODIG-2020-112 (Alexandria, Va.: August 2020).

does not meet the individual's needs," such as a pediatric psychiatrist, or to a provider that is not taking new patients.

- **Difficulty getting to appointments.** Limited treatment options through the TRICARE network may lead to or exacerbate other challenges, such as childcare or cost, making it difficult for beneficiaries to get to appointments. For example, one beneficiary told us she was fortunate to find a counselor with Saturday hours, but still needed to make sure her husband wasn't working on Saturdays while she went to see the counselor, because "you can't drag your kids to therapy." This beneficiary added that she paid out of pocket to see this counselor because the counselor was outside of the TRICARE network.
- **Limited knowledge of perinatal mental health.** Four of the five beneficiaries we spoke with said that mothers may not understand or recognize the symptoms of perinatal mental health conditions. This could suggest that providers are not adequately educating patients on these conditions, according to a Department of Defense (DOD) health official. One beneficiary said the information she was provided when discharged from the hospital after delivery should have addressed what to do in case of experiencing perinatal mental health symptoms, similar to the instructions she received regarding to what to do if she started bleeding.
- **Stigma.** Stigma can include both work-related stigma—such as concerns about a servicemember's military career, in the case of TRICARE beneficiaries—as well as general stigma or fear regarding losing custody or being viewed as a "bad mother." Both types of stigma came up in our interviews with beneficiaries. See box below.

**Examples of stigma concerns from beneficiaries**

- One beneficiary, a military spouse, said that younger spouses are scared to "rock the boat" for their spouse or get them in trouble. She felt she was okay because her husband was high-ranking and was thus able to "go to battle for her" and deal with the "suck it up" responses. Some spouses are concerned about their active-duty spouse experiencing retribution because they "can't get the job done" or must field questions such as "Why do you have to leave your job because your spouse cannot care for their baby?" She said this is a significant barrier for any spouse because they do not want to feel like they are disrupting the system. "You are told to just 'suck it up' or 'put your big-girl panties on,' and just deal with it."
- Another beneficiary said that for her inpatient screening after the birth of her baby, she avoided the screening out of fear that she would score high. While she was being processed for discharge, she completed the screening and was positive. After the nurse reviewed the positive screening, "the nurse said that 'if [the screening score] is as high as it is then we will have to keep you at the hospital for a few more days and see what we can do about child care.' At that point I got scared, retook it, and lied to make it go down lower. Even with the lie, it was still pretty high, but it was at the point where I could be discharged…the way the nurse framed it—that my child may have to be taken away from me for a little bit—that's why I got scared."

Source: GAO interviews with TRICARE beneficiaries, 2021. | GAO-22-105136

TRICARE providers also may face barriers to helping their beneficiaries obtain treatment for perinatal mental health conditions, such as:

- **Limited training.** Women's health providers from one MTF told us they would like additional medical education on behavioral health for prenatal and postpartum patients to allow them to make better informed treatment decisions. They noted that providers typically receive only a short amount of education on the topic during their residencies.
- **Limited time at appointments.** One MTF provider told us that obstetric care providers typically only have a short time with their patients at each appointment, and mental health issues often require more time. One of the beneficiaries we interviewed said she had significant physical complications that occurred during delivery and providers wanted to address those issues first, leaving less time for discussion of mental health concerns. As such, she believed the providers were not focused on her mental health care.

# Appendix III: Additional Prevalence Data

In tables 10 through 15 below, we present demographic data from our analysis of TRICARE beneficiaries' mental health diagnoses during the perinatal periods associated with pregnancy outcomes that occurred in fiscal years 2017-2019.

Table 10 shows the makeup of beneficiaries in our analysis, including beneficiary category and whether the pregnancy outcome occurred in direct care or private sector care.

**Table 10: TRICARE Beneficiary Population with Pregnancy Outcomes in Fiscal Years 2017 through 2019**

| Demographic category[a] | Total number of perinatal periods[b] | Percentage of this population |
|---|---|---|
| Beneficiary category | | |
| Dependents | | |
| Spouses of active-duty | 154,486 | 60.3 |
| Other dependents | 53,989 | 21.1 |
| Active-duty | 41,195 | 16.1 |
| Retired servicemembers[c] | 2,764 | 1.1 |
| Inactive Guard and Reserve members | 3,457 | 1.4 |
| Other beneficiaries | 123 | 0.1 |
| Pregnancy outcome location | | |
| Private sector care facility | 155,804 | 60.9 |
| Direct care facility | 99,198 | 38.8 |
| **Population** | **256,014** | **100** |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

[a]This population includes 235,283 unique beneficiaries. Among those beneficiaries, 20,517 had multiple pregnancy outcomes between fiscal years 2017 and 2019 and therefore have multiple perinatal periods in our data.

[b]We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[c]Servicemembers may be eligible for retirement after 20 years of active-duty service. Accordingly, military retirees are relatively young—the average age of retired servicemembers in fiscal year 2020 was about 46, according to the Department of Defense. See Department of Defense, Office of the Actuary, Statistical Report on the Military Retirement System; Fiscal Year Ended September 30, 2020, September 2021, p. 47. Outside of the perinatal period, retirees and their dependents make up more than half of eligible TRICARE beneficiaries.

## Prevalence Data for All TRICARE Beneficiaries

TRICARE includes multiple enrollment groups, or plans, and in table 11 below, we present the prevalence of mental health diagnoses for perinatal beneficiaries by different enrollment groups.

**Table 11: TRICARE Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by TRICARE Enrollment Group**

| TRICARE enrollment group | Total number of perinatal periods | Prevalence (percent) |
|---|---|---|
| Prime | 179,652 | 36.6 |
| Select | 41,721 | 36.7 |
| Reserve Select | 7,753 | 29.8 |
| Direct care only | 1,865 | 32.3 |
| Other[a] | 25,023 | 34.9 |
| **Total** | **256,014** | **36.2** |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Data set includes 235,283 unique beneficiaries. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[a]Other includes beneficiaries enrolled in the Uniformed Services Family Health Plan and TRICARE Plus.

In table 12, we provide data on the prevalence of mental health diagnoses for perinatal beneficiaries by the location of their pregnancy outcome.

**Table 12: TRICARE Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Location of Pregnancy Outcome**

| Location of pregnancy outcome | Total number of perinatal periods | Prevalence (percent) |
|---|---|---|
| Private sector care facility | 155,804 | 35.5 |
| Direct care facility | 99,198 | 37.4 |
| Birthing center | 551 | 27.4 |
| Home | 461 | 28.9 |
| **Total** | **256,014** | **36.2** |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: Data set includes 235,283 unique beneficiaries. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

## Prevalence Data for TRICARE Active-Duty Beneficiaries

Table 13 includes data on race for active-duty beneficiaries and the corresponding prevalence for mental health diagnoses. We analyzed race data only for active-duty beneficiaries due to incompleteness of race data for other beneficiaries, including dependents.

**Table 13: TRICARE Active-Duty Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Race**

| DEERS race description[a] | Total number of active-duty perinatal periods[b] | Prevalence (percent) |
|---|---|---|
| White | 21,549 | 37.6 |
| Black | 10,531 | 41.2 |
| Asian or Pacific Islander | 2,152 | 29.5 |
| American Indian or Alaskan Native | 371 | 37.7 |
| Other / Unknown | 6,581 | 35.9 |
| **Total** | **41,195** | **37.8** |

Source: GAO analysis of Military Health System Data Repository (MDR) data. | GAO-22-105136

[a]This population had 41,195 active-duty perinatal periods, which includes Guard and Reserve members that are on active-duty. Race data is from the Defense Enrollment Eligibility Reporting System (DEERS). The MDR does not collect data on ethnicity, so we were unable to analyze prevalence for Hispanic beneficiaries specifically. Instead, Department of Defense officials said most Hispanics were likely recorded as being White.

[b]We define the perinatal period as the start of pregnancy up to 1 year postpartum.

Table 14 shows prevalence of mental health diagnoses by military branch for active-duty beneficiaries.

**Table 14: TRICARE Active-Duty Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Military Branch**

| Military branch | Total number of active-duty perinatal periods[a] | Prevalence (percent) |
|---|---|---|
| Army | 13,966 | 43.1 |
| Air Force | 11,676 | 31.6 |
| Navy | 11,373 | 39.8 |
| Marine Corps | 2,841 | 36.9 |
| Coast Guard | 931 | 21.7 |
| Other[b] | 408 | 24.3 |
| **Total** | **41,195** | **37.8** |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

[a]We define the perinatal period as the start of pregnancy up to 1 year postpartum.

[b]No military branch recorded.

Table 15 provides information on the prevalence of mental health diagnoses for active-duty beneficiaries among all Department of Defense (DOD) occupation codes (job categories).[1]

**Table 15: TRICARE Active-Duty Prevalence of Mental Health Diagnoses during Perinatal Period for Pregnancy Outcomes in Fiscal Years 2017 through 2019, by Department of Defense (DOD) Occupation**

| DOD occupation code description | Total number of perinatal periods | Prevalence (percent) |
|---|---|---|
| Veterinary medicine | 107 | 56.1 |
| Medical logistics | 139 | 54.0 |
| Biomedical laboratory services | 159 | 53.5 |
| Medical care and treatment, general | 2,163 | 51.5 |
| Communications radio | 364 | 50.3 |
| Medical administration | 277 | 49.8 |
| Radiology | 107 | 48.6 |
| Operators/analysts | 284 | 48.2 |
| Missile artillery, operating crew | 112 | 48.2 |
| Pharmacy | 139 | 48.2 |
| Motor vehicle operators | 671 | 47.8 |
| Combat engineering, general | 122 | 47.5 |
| Environmental health/preventive medicine services | 158 | 47.5 |
| Chaplain's assistants | 136 | 47.1 |
| Seamanship, general | 130 | 46.9 |
| Missile fuel and petroleum | 335 | 46.3 |
| Operating room services | 118 | 45.8 |
| Navigators | 115 | 45.2 |
| Food service, general | 1,366 | 45.0 |
| Aviation maintenance records and reports | 209 | 45.0 |
| Automotive, general | 298 | 44.0 |
| Aircraft engines | 176 | 43.8 |
| Electronic instruments, N.E.C. | 140 | 43.6 |
| Artillery and gunnery | 154 | 43.5 |
| Radio/radar, general | 200 | 43.5 |
| Electric power | 226 | 43.4 |

[1]We limited our analysis to DOD occupation codes with at least 100 perinatal periods in our time period.

| DOD occupation code description | Total number of perinatal periods | Prevalence (percent) |
|---|---|---|
| Ammunition repair | 342 | 43.0 |
| Aircraft, general | 359 | 42.9 |
| Nuclear, biological, and chemical warfare specialists | 324 | 42.9 |
| Aircraft accessories | 365 | 42.7 |
| Sales store | 101 | 42.6 |
| Behavioral sciences/mental health services | 151 | 42.4 |
| Legal | 215 | 42.3 |
| Warehousing and equipment handling | 154 | 42.2 |
| Navigation, communication, and countermeasure, N.E.C. | 349 | 42.1 |
| Information and education, general | 202 | 42.1 |
| Analysis | 434 | 41.7 |
| ADP computers, general | 464 | 41.4 |
| Forward area equipment support, general | 210 | 41.0 |
| Other craftsworkers, N.E.C., general | 184 | 40.8 |
| Law enforcement, general | 1,505 | 40.6 |
| Missile guidance and control | 188 | 40.4 |
| Aircraft launch equipment | 394 | 40.4 |
| Auxiliaries | 246 | 40.2 |
| Combined personnel and administration, general | 1,545 | 40.1 |
| Utilities, general | 197 | 40.1 |
| Supply administration | 3,180 | 39.9 |
| Recruiting and counseling | 311 | 39.6 |
| Aircraft structures | 238 | 39.5 |
| Intercept operators (code and non-code) | 314 | 39.5 |
| Dental care, general | 287 | 39.0 |
| Operational intelligence | 497 | 38.8 |
| Boatswains | 269 | 38.7 |
| Aviation ordnance | 556 | 38.1 |
| Radar | 435 | 37.5 |
| Disbursing | 127 | 37.0 |
| Main propulsion | 280 | 36.1 |
| Transportation | 358 | 36.0 |
| Administration, general | 897 | 36.0 |
| Not occupationally qualified, general | 137 | 35.8 |
| Image interpretation | 297 | 35.7 |

| DOD occupation code description | Total number of perinatal periods | Prevalence (percent) |
|---|---|---|
| Weather, general | 101 | 35.6 |
| Combat operations control, general | 189 | 35.5 |
| Personnel, general | 803 | 34.3 |
| Unknown/missing | 2,144 | 34.1 |
| Functional analysis | 118 | 33.9 |
| Flight operations | 345 | 33.6 |
| Construction, general | 120 | 33.3 |
| Air traffic control | 162 | 32.7 |
| Nurses | 278 | 32.4 |
| Auditing and accounting | 134 | 32.1 |
| Manpower and personnel | 447 | 30.7 |
| Supply | 118 | 30.5 |
| Medical/surgical nurse | 291 | 27.5 |
| Health services administration | 349 | 27.2 |
| Physicians | 231 | 24.7 |
| Logistics, general | 254 | 23.6 |
| Intelligence, general | 357 | 23.5 |
| Operations staff | 177 | 21.5 |
| Ground and naval arms | 238 | 21.4 |
| Communications and radar | 122 | 20.5 |
| Construction and utilities | 100 | 20.0 |
| Legal | 288 | 19.8 |
| Helicopter pilots | 119 | 13.5 |
| Procurement and production | 101 | 11.9 |
| Other fixed-wing pilots | 211 | 10.9 |

Source: GAO analysis of Military Health System Data Repository data. | GAO-22-105136

Notes: This population had 41,195 active-duty perinatal periods, which includes Guard and Reserve members that are on active-duty. Only occupations with at least 100 perinatal periods were included. We define the perinatal period as the start of pregnancy up to 1 year postpartum.

# Appendix IV: GAO Contact and Staff Acknowledgments

## GAO Contact

Alyssa M. Hundrup, (202) 512-7114 or hundrupa@gao.gov.

## Staff Acknowledgments

In addition to the contact named above, Raymond Sendejas, Assistant Director; Julie T. Stewart, Analyst-in-Charge; Jennie F. Apter, Victoria Johnson-Coxon, Daniel K. Lee, Jeanne Murphy-Stone, and Cory Ryncarz, made key contributions to this report. Also contributing were Vishva V. Bhatt, Jieun Chang, Kaitlin Farquharson, Patricia Powell, and Roxanna Sun.