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FEDERAL HEALTH CARE DATA TRENDS 2025

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FEDERAL HEALTH CARE DATA TRENDS

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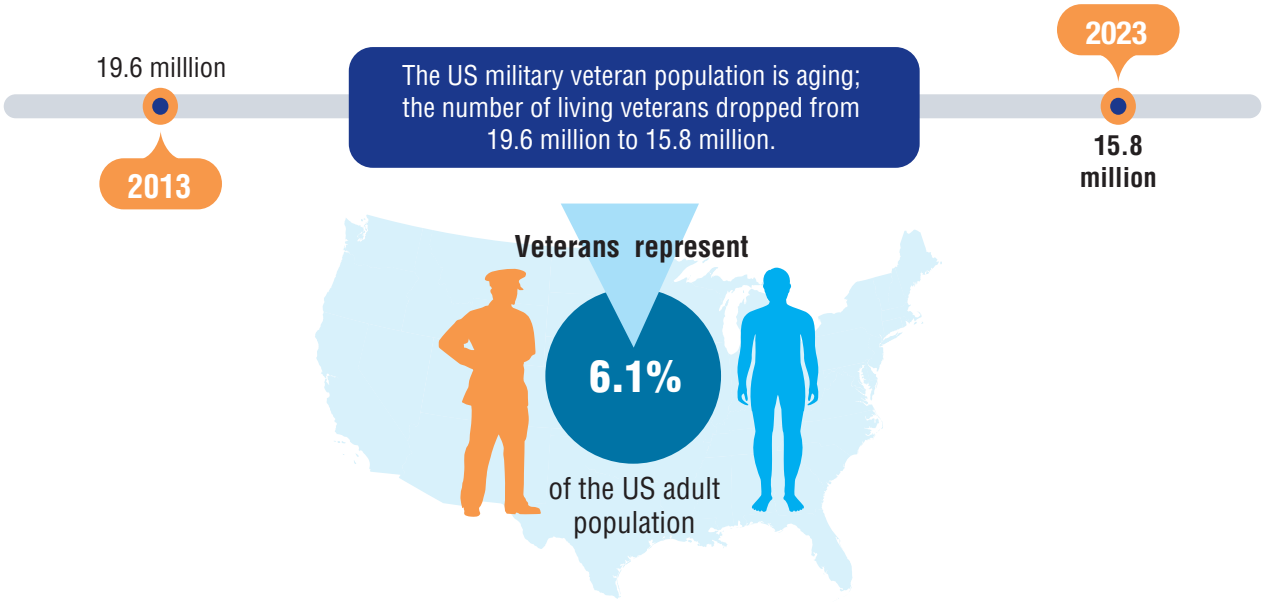
The following abbreviations are used frequently throughout this issue:

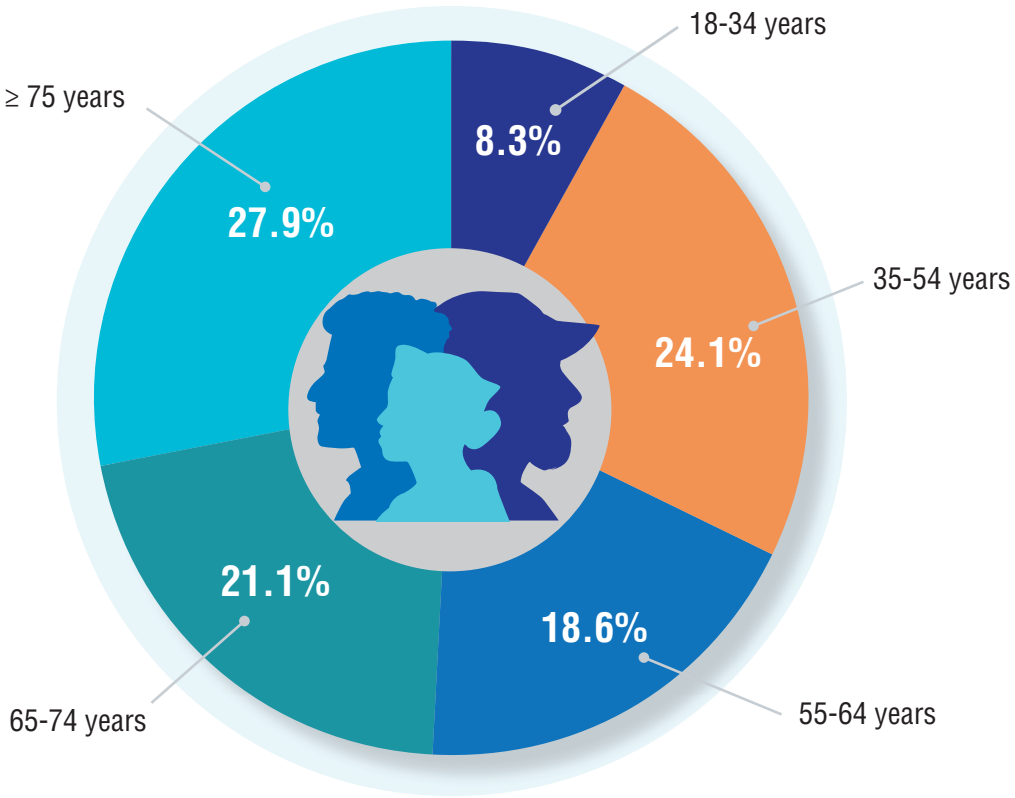
MACE, major adverse cardiovascular event; PTSD, posttraumatic stress disorder; TBI, traumatic brain injury; VA, Veterans Affairs; VHA, Veterans Health Administration

Veteran Health at a Glance

US Veteran Population Estimates[1,2]



US Veterans by Age



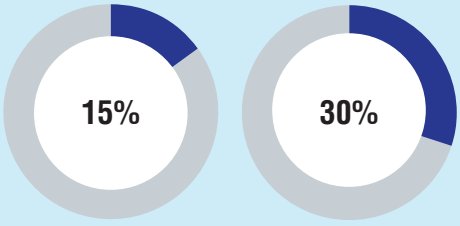
Service-Connected Disabilities[3,6]

Veteran service-connected disabilities have doubled over the last two decades.

Service-Connected Disability (SCD)

A medical condition that was caused or aggravated by military service, supported by a documented in-service event and clear medical nexus.

→ The rate of veterans with SCDs has **doubled since 2008** across all age groups.



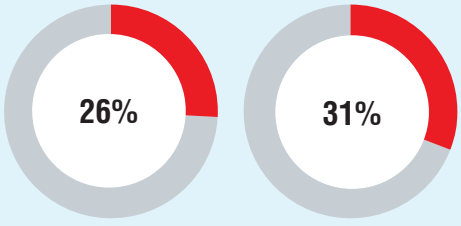
Top 5 SCDs for VA Compensation Recipients Based on Fiscal Year 2024

1. **Tinnitus**
   3.2 million veterans
2. **Limitation of flexion, knee**
   2.1 million veterans
3. **Sciatic nerve paralysis**
   1.7 million veterans
4. **Lumbosacral or cervical strain**
   1.6 million veterans
5. **Hearing loss**
   1.5 million veterans

American Community Survey (ACS) Disability

Defined by functional limitations in daily living, including hearing, vision, cognitive, ambulatory, self-care, and independent living difficulties

→ The rate of veterans with ACS disabilities has remained stable.



Top ACS Disability in Each Service Cohort

Post-9/11
Cognitive – 9.5%

This is higher than in **First Gulf War (7.4%)** and **Vietnam War (8.8%)** veterans.

First Gulf War
Ambulatory – 10.4%

Vietnam War
Hearing – 22.3%

Korean War
Ambulatory – 44.0%

World War II
Ambulatory – 61.7%

Estimated VA Payments for Service-Connected Disabilities

2022 - **$112.06 billion**
2023 - **$133.09 billion**
2024 - **$152.5 billion**

The Aging Veteran Population[7,8]

Nearly half (49%) of the veteran population is **older** (aged ≥ 65 years). **This cohort served mostly during the Vietnam War era.**

Older veterans appear to be doing better than civilians of the same age in some social and economic measures.

Veterans
Civilians

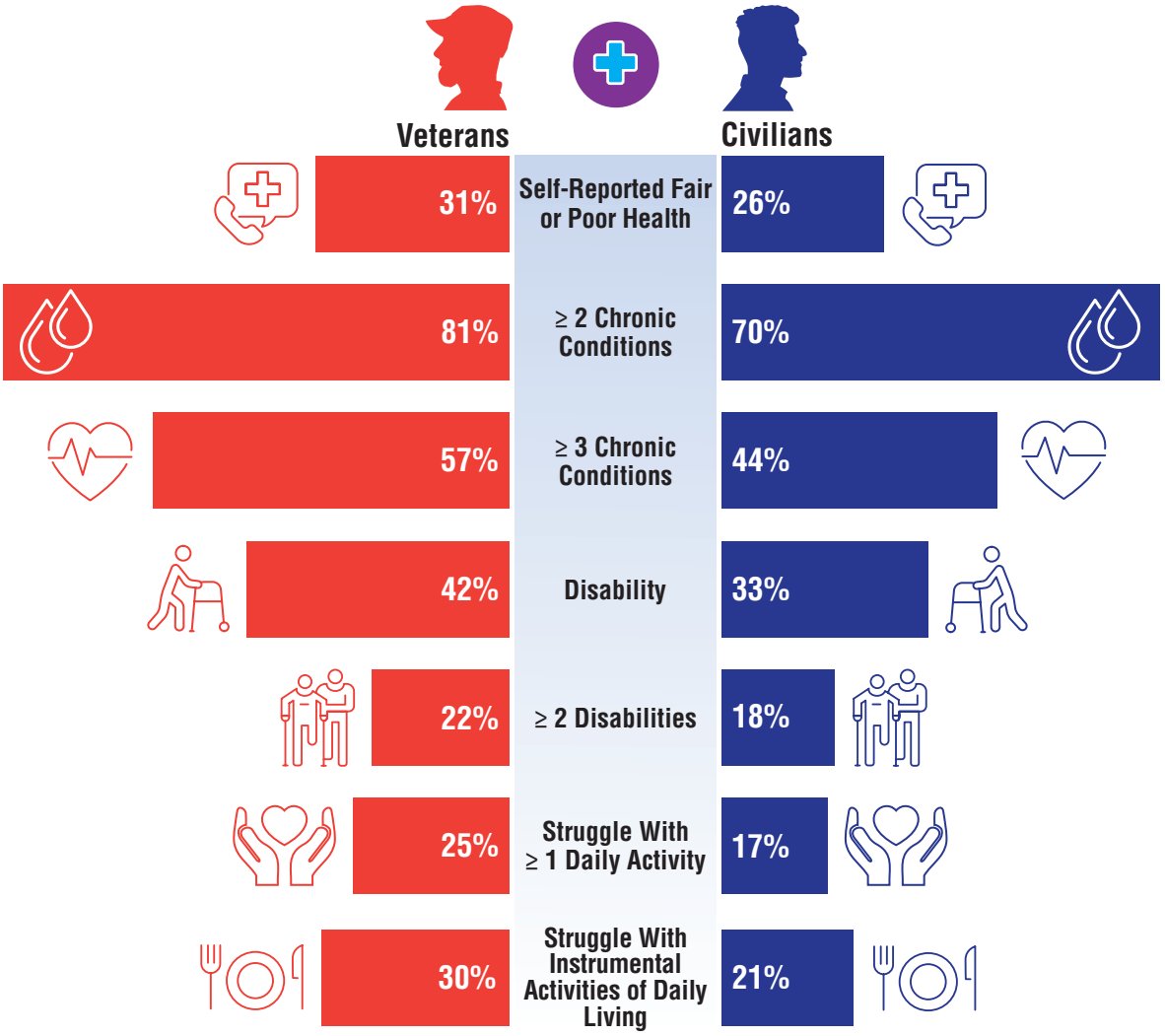
Median Income
$39,000 vs **$26,000**

High Cost of Living
(> 30% of income spent on housing)
22.3% vs **27.6%**

Living With Spouse
64.3% vs **52.2%**

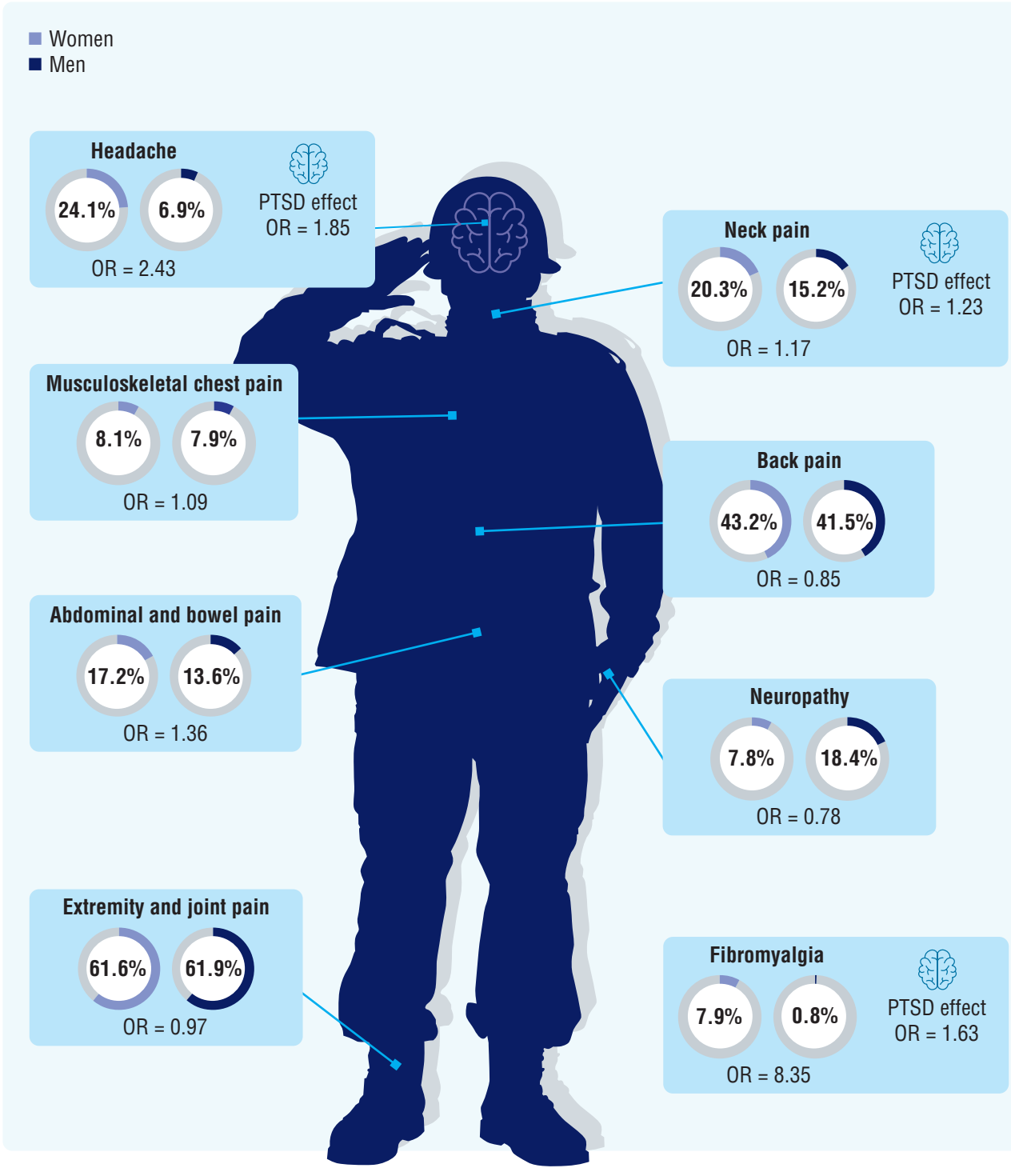
≥ 1 Characteristic of Social Isolation
42.8% vs **45.6%**

However, older veterans tend to experience poorer health outcomes than civilians.



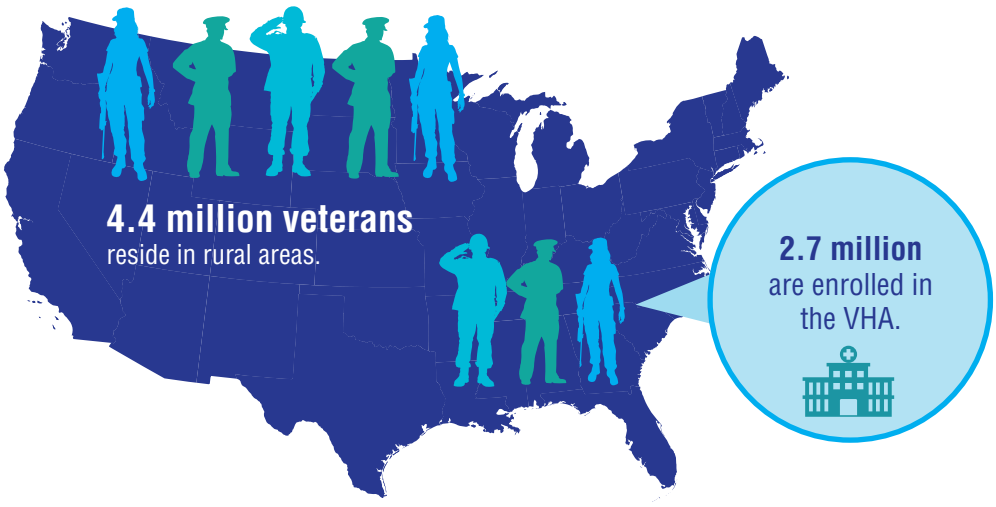
Prevalence of Chronic Pain[9]

An analysis of 1.9 million veterans meeting criteria for ≥ 1 type of chronic pain explored gender differences and the impact of PTSD on pain patterns.



Odds ratios (OR) are shown as women relative to men, and with-PTSD relative to without-PTSD.

Rural Veterans[10-13]

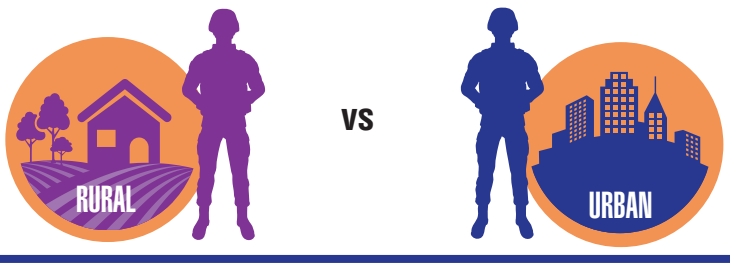


60% are affected by a **service-connected condition.**

54% are aged ≥ **65 years.**

Only **15% of VA medical centers** are in rural areas.

Telehealth for Rural Veterans



32.3% **of rural veterans believe telehealth appointments would be easier if they had help accessing a tablet or other device.**

Rural veterans are more likely to rate telehealth visits as **not as good as in-person visits.**

45.3% vs **36.8%**

Rural veterans are **less likely to have received a telehealth visit** in the past year, compared to urban veterans.

74.1% vs **85.2%**

Rural veterans were **less likely to use e-mail to communicate** with their doctor.

36.1% vs **52.4%**

Obesity

In the United States, the prevalence of obesity substantially increased from 1990 to 2021 among both adults (+123.6% males; +99.9% females) and adolescents (+158.4% males; +185.9% females).[1] Among veterans, obesity prevalence estimates vary from about one-quarter to one-half of the population across VHA facilities.[2]

Entry-level military roles are often recruited from lower-income groups that have higher occupational stress and mental health issues, and limited access to healthy food. Enlisted troops are 38% more likely to be diagnosed with obesity than their officer and civilian counterparts.[3]

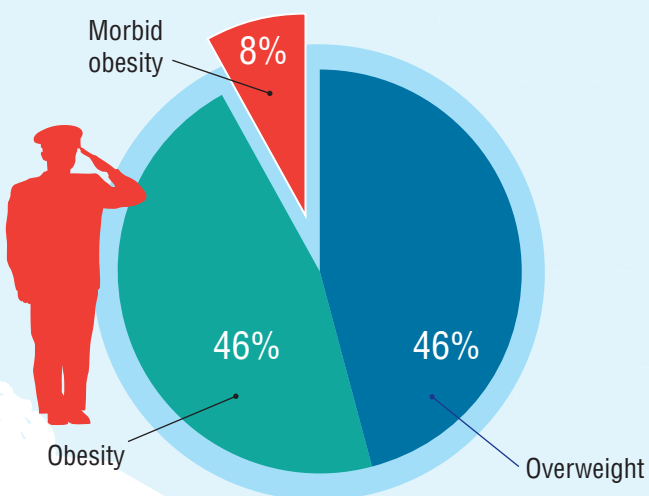
Obesity is frequently underdiagnosed in veteran, active duty, and reserve populations, contributing to delayed treatment and increased risk for comorbidities.[4] Obesity-related conditions also contribute to higher health care utilization and costs for the Department of Defense and VHA.[3]

US Obesity Prevalence[1,4-7]

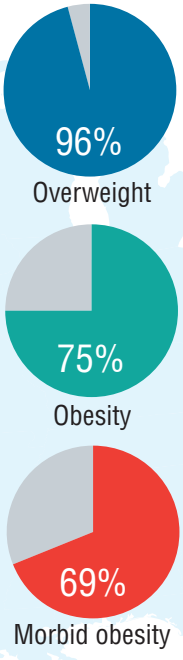
It is estimated that by 2030, **1 in 2 US adults will have obesity.**

This number is projected to rise to **2 in 3 US adults by 2050.**

Breakdown of the 2.9 million veterans with excess weight:



A significant portion of veterans with excess weight are undiagnosed.



12%

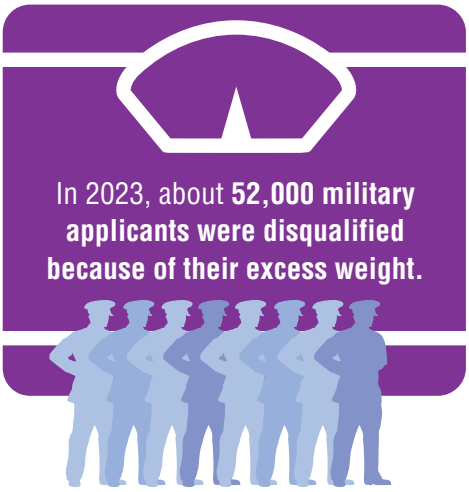
12% of active-duty service members meeting obesity criteria are diagnosed.

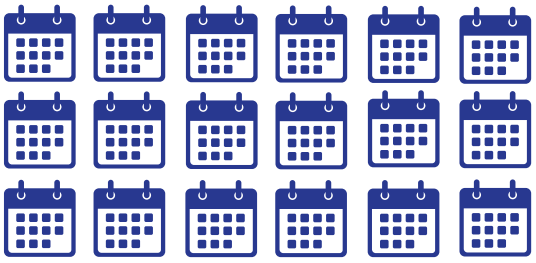
65%

More than 65% of reserve personnel have either clinical overweight or obesity.

% of undiagnosed veterans meeting diagnosis criteria

Impact of Overweight/Obesity Epidemic on Active-Duty Service[3]

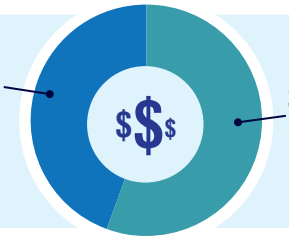




Service members diagnosed with overweight or obesity **leave service an average of 18 months earlier than their peers.**

Obesity in active-duty service members costs the DoD **> $1.35 billion annually.**

$99 million
Lost productivity due to hospital stays



$1.25 billion
Direct care costs

Obesity Comorbidities and Associated Health Care Costs, 2023

1. **Sleep Apnea**
Obesity-associated cases: **99,471**
Total cost: **$430,608,141**

2. **Musculoskeletal Injuries**
Obesity-associated cases: **310,663**
Total cost: **$299,789,641**

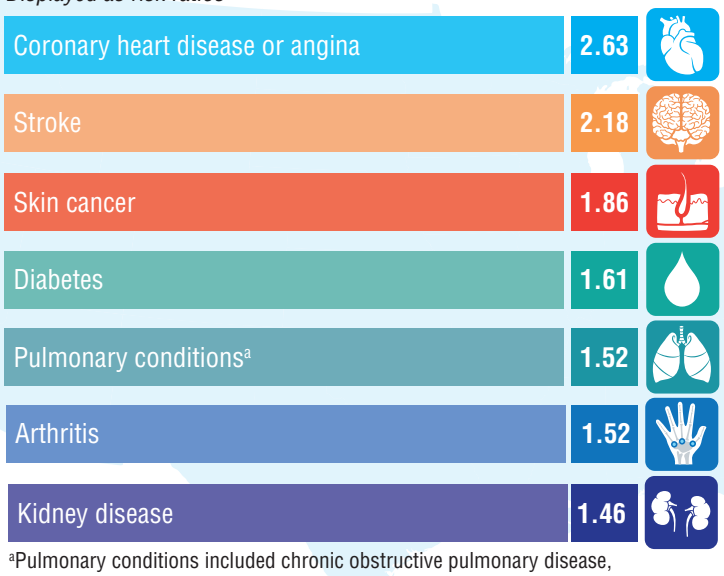
3. **Anxiety Disorders**
Obesity-associated cases: **32,827**
Total cost: **$186,590,089**

4. **Musculoskeletal Diseases**
Obesity-associated cases: **56,449**
Total cost: **$106,575,561**

5. **Hypertension**
Obesity-associated cases: **30,262**
Total cost: **$102,616,950**

More on Comorbidities: Veterans vs Civilians[8]

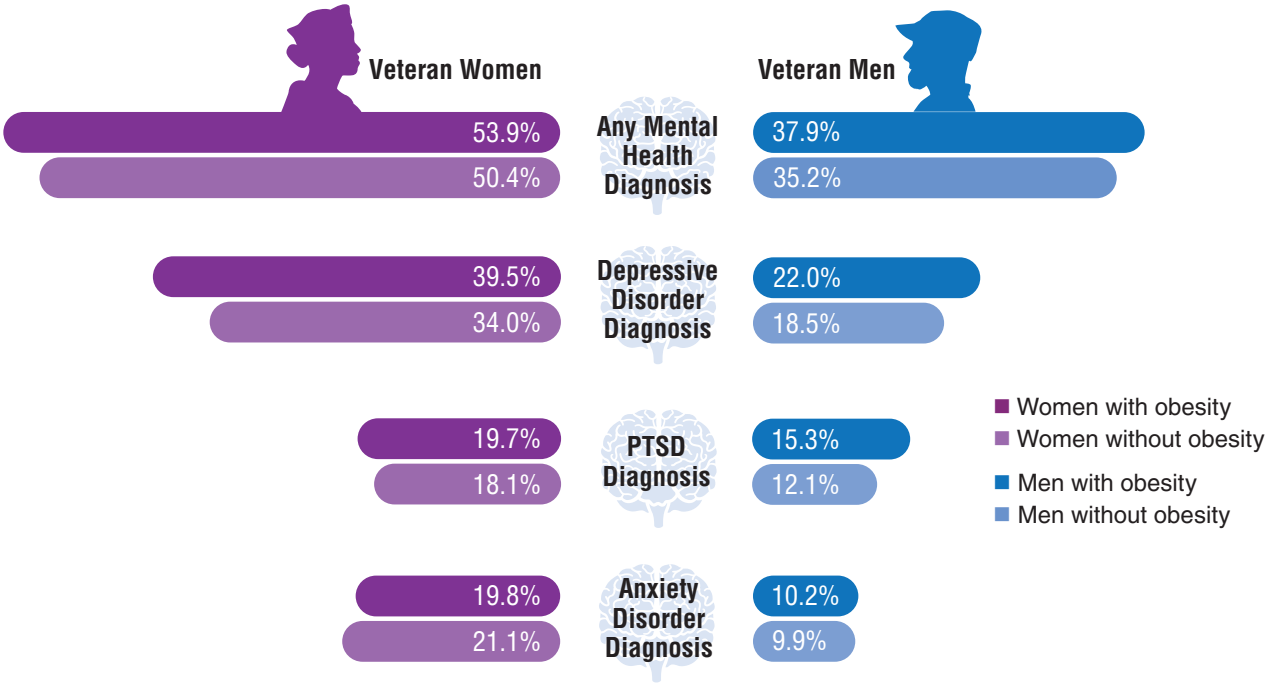
Displayed as risk ratios



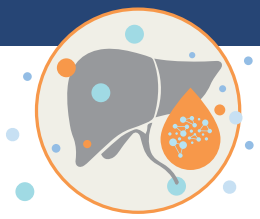
[a]Pulmonary conditions included chronic obstructive pulmonary disease, emphysema, and chronic bronchitis.

Mental Health Diagnoses in Veterans With Obesity[9]

A study of more than 342,00 veteran women (44.2% with obesity) and 4.5 million veteran men (41.7% with obesity) found **obesity was associated with a higher mental health burden.** Women had higher rates of mental health diagnoses than men.



Hepatology



Screening rates in veterans are low for a variety of hepatologic diseases, such as metabolic dysfunction-associated steatotic liver disease (MASLD), hepatitis C virus (HCV), and hepatitis B virus (HBV).[1,2] The veteran population has a high prevalence of metabolic and cardiovascular comorbidities, which are risk factors for MASLD.[1,3] Veterans receiving VHA care also have a higher prevalence of HCV compared to the general US population.[4] The VHA has achieved high HCV treatment and sustained virologic response (SVR) rates due to widespread use of direct-acting antivirals (DAAs).[4]

Within 5 years of diagnosis, about 2.5% of patients with MASLD progress to cirrhosis, with higher rates observed in certain races and ethnicities, as well as in those with elevated fibrosis-4 (FIB-4) index scores.[3] HCV also increases risk of more advanced liver disease.[4] Cirrhosis increases mortality risk in patients, particularly in those with MASLD and a BMI under 25.[5]

MASLD in At-Risk Veterans[1]

Out of a cohort of 9.7 million veterans, **45% had risk factors for MASLD.**

6% of those with risk factors were **diagnosed with cirrhosis or MASLD.**

Risk Factors for MASLD

- Type 2 diabetes | **46.0%**
- Prediabetes | **28.2%**
- Obesity | **48.2%**
- Dyslipidemia | **63.9%**
- > 1 risk factor | **71.9%**

Veterans diagnosed with MASLD were more likely to be/have…

- ✔ Younger (mean age **62.1 vs 69.0 years**)
- ✔ Women (**9.1% vs 8.0%**)
- ✔ Non-Hispanic White (**74.2% vs 72.2%**)
- ✔ Diagnosed with AUD (**20.8% vs 11.7%**)
- ✔ Diagnosed with diabetes (**51.7% vs 44.8%**)
- ✔ Diagnosed with obesity (**67.3% vs 47.3%**)
- ✔ Elevated ALT (**58.2% vs 16.5%**)
- ✔ Higher FIB-4 scores, > 2.67 (**11.3% vs 6.9%**)

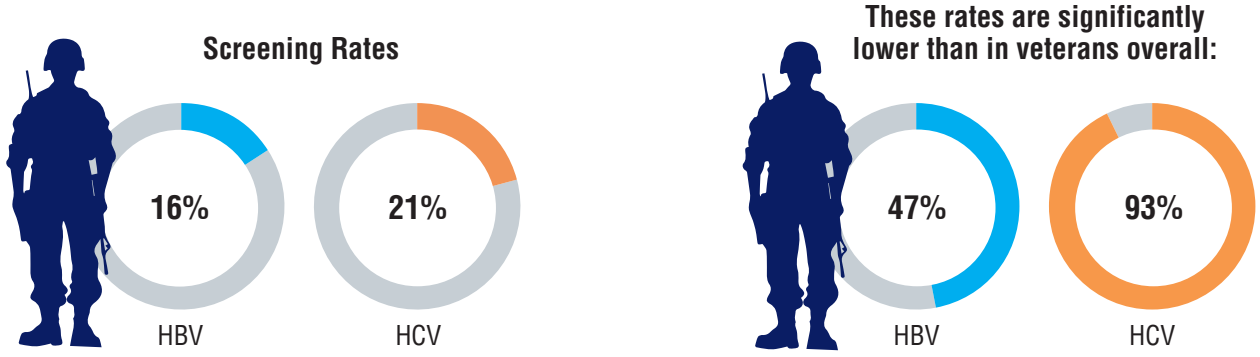
…compared to those without MASLD

ALT, alanine transaminase; AUD, alcohol use disorder

More than half of the veterans with MASLD risk factors had FIB-4 scores that would prompt screening. Of those who were at risk, 9% received specialty care for liver disease, and 2% underwent elastography. Receiving a MASLD and cirrhosis diagnosis increased the odds of being seen by gastroenterology and hepatology clinicians by 5 and 8.3 times, respectively.

Viral Hepatitis Screening Rates in Low-Income Veterans[2]

Lifetime HBV and HCV screening rates and associated factors were assessed among 933 low-income veterans. The results showed suboptimal screening, particularly for those with HBV, with notable disparities among veterans experiencing homelessness or extreme poverty.



Factors Associated With Higher Odds of Screening in Low-Income Veterans

Age
Veterans aged **50-79 years**
- More likely to be screened for HBV and HCV vs those aged ≥ **80 years**

Insurance
Medicaid-insured veterans
- More likely to **screen for HBV**

Employment
Veterans with **"other" employment types** (eg, temporary, informal)
- More likely to **screen for HBV and HCV** vs full- or part-time employed veterans

Household composition
Veterans living with **5+ people**
- More likely to **screen for HCV**

Race/Ethnicity
Non-Hispanic "Other" race
- More likely to **ever-screen for HBV** vs non-Hispanic White veterans

Health histories
Drug use and **cognitive disorders**
- Associated with **HBV** screening

Alcohol use, cancer, liver disorders
- Associated with **HCV** screening

HIV/AIDS
- Associated with **both HBV and HCV** screening

Housing
Veterans with **housing instability**
- More likely to **ever-screen for HBV**

Incidence of Cirrhosis in Veterans With MASLD[3]

Nearly 1 million **veterans with noncirrhotic MASLD** were followed from 2010 to 2022 to assess future incidence of cirrhosis.

10-Year Incidence of Cirrhosis
3.70%

By FIB-4 score

- FIB-4 < 1.3 | **1.20%**
- FIB-4 1.3-2.67 **3.03%**
- FIB-4 > 2.67 | **15.50%**

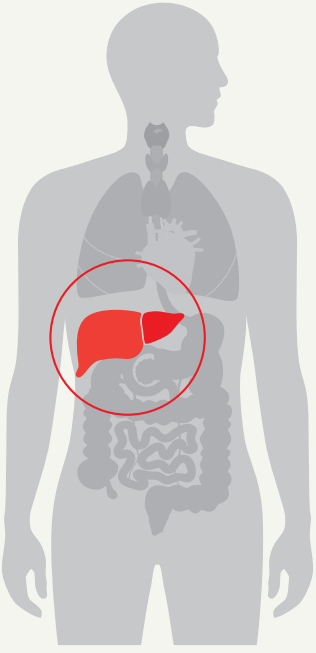
By sex

- Male **3.78%**
- Female | **2.38%**

Those with cirrhosis were more likely to be…

- Active tobacco smokers **2.08**
- High-risk alcohol drinkers **1.58**

Displayed as odds ratios



By race/ethnicity

- **4.07%** American Indian/Alaska Native
- **2.63%** Asian or Pacific Islander
- **3.51%** Black or African American
- **4.60%** Hispanic
- **3.75%** Non-Hispanic White

By age

- **0.69%** | 18-39 years
- **2.99%** 40-59 years
- **2.29%** | ≥ 60 years

BMI-Related Mortality in MASLD Cirrhosis[5]

A retrospective study of 15,155 VHA patients with newly diagnosed compensated MASLD cirrhosis between 2008 and 2021 looked at **disease progression and mortality in lean and nonlean patients.**

Lean was defined as a BMI of < 23 for Asian patients and < 25 for all other races.

Baseline Characteristics

Lean vs nonlean

Median age: **70.1 years** vs **66.8 years**

Diabetes: **46.7%** vs **73.9%**

Coronary artery disease: **34.3%** vs **37.9%**

Current or former smoking: **63.9%** vs **55.7%**

Lean status was associated with…

- ✔ Increased risk of all-cause mortality **(aHR = 1.64)**
- ✔ Increased risk of cardiovascular-related mortality **(aHR = 1.40)**
- ✔ Decreased risk of hepatic decompensation **(aSHR = 0.67)**

aHR, absolute hazard ratio; aSHR, absolute standardized hazard ratio

Diabetes

Nearly 25% of veterans who receive VA care have diabetes, compared with about 10% of the US population.[1,2] Within the VA, diabetes is the leading cause of long-term complications such as blindness, kidney failure, and amputation.[1]

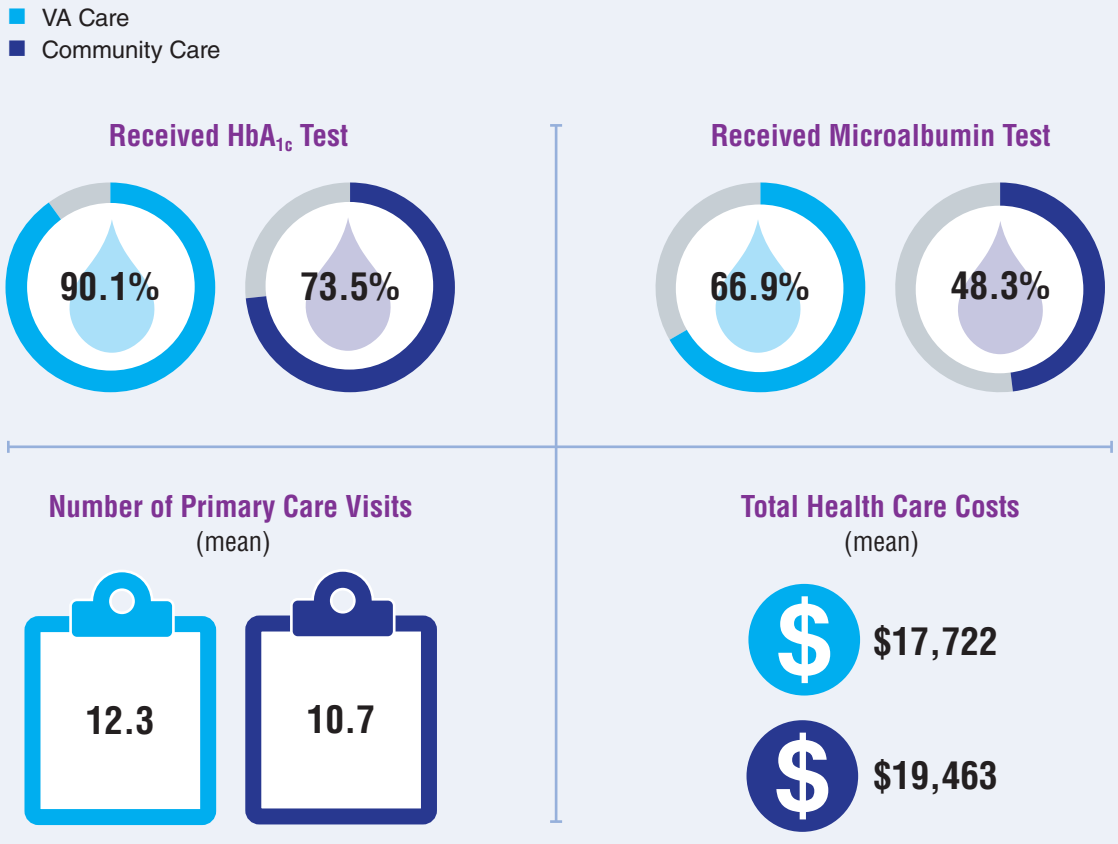
Over the past decade, racial and ethnic disparities in early glycemic control have narrowed within the veteran, but differences in continuous glucose monitor (CGM) prescriptions remain.[3,4]

The quality of diabetes management also varies depending on where veterans receive their care. A recent study showed that veterans seeking care in community settings had lower rates of diabetes testing and immunizations, fewer primary care visits, higher rates of hospitalization, and higher health care costs compared with veterans who were treated directly within the VA.[5]

VHA vs Community Diabetes Care[5]

A recent study evaluated the quality of care for veterans with diabetes who received primary care through the VA (n = 652,648) or through community care (n = 3650). Over a 12-month period, veterans receiving community care had higher mean costs and lower probability of receiving diabetes-related tests.

Diabetes Care in a 12-Month Period



Trends in Glycemic Control[3,4]

Veterans Achieving Early Glycemic Control

Based on an analysis of 837,023 veterans with newly diagnosed type 2 diabetes; early glycemic control was defined as average annual HbA_{1c} < 7% within the first 5 years after diabetes diagnosis. Early control remained high and stable, with racial/ethnic gaps narrowing in the later cohorts.

2008-2010 Overall early glycemic control | 73%

Veterans in all racial/ethnic minority groups were less likely to reach HbA_{1c} < 7% compared with White veterans during this period.

2011-2013 Overall early glycemic control | 72%

Between 2011 and 2016, Black and Hispanic veterans became more likely to reach HbA_{1c} targets vs White veterans, but Asian, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander veterans remained less likely.

2014-2016 Overall early glycemic control | 72%

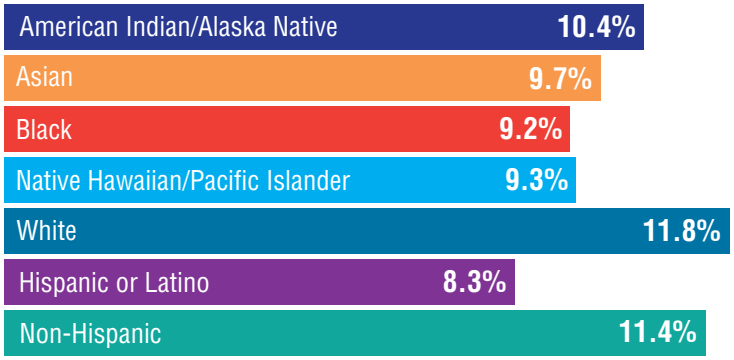
2017-2018 Overall early glycemic control | 76%

By this period, all racial/ethnic minority groups were equally or more likely to achieve HbA_{1c} < 7% compared with White veterans.

While initial HbA_{1c} outcomes improved overall, Hispanic, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander veterans continue to have more cases of HbA_{1c} ≥ 9% vs White veterans.

CGM Prescriptions

A study of 368,794 veterans diagnosed with either type 1 (3%) or type 2 (97%) diabetes who were on insulin evaluated the association of race and ethnicity with prescriptions for CGM between 2020 and 2021.



After adjusting for demographic, clinical, and systemic factors, Black veterans had significantly lower odds of being prescribed CGM compared with White veterans; the same was true for Hispanic compared with non-Hispanic veterans. Male sex, older age, urban location, HbA_{1c} < 7%, fewer endocrine visits, and basal insulin use were additional factors significantly associated with lower CGM prescription rates.

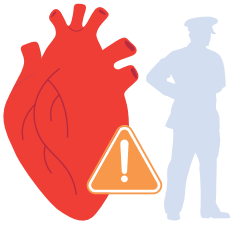
Cardiology

Cardiovascular disease (CVD), a leading cause of morbidity in this population, has driven the VHA to focus increasingly on prevention, risk reduction, and more effective management strategies.[1]

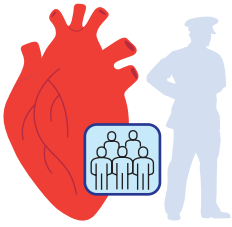
To address hypertension (HTN)—the most common chronic condition among veterans—the VHA has implemented nurse-led telehealth initiatives, including video blood pressure visits (VBPVs), since 2018.[2] These virtual visits support accurate blood pressure (BP) monitoring, patient education, and medication adherence, helping to expand access and improve outcomes.[2]

Overview of Heart Disease in Veterans[2,3-5]

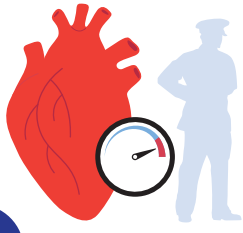
Veterans are…



2× as likely as civilians to develop heart disease.



2+ million veterans are living with atherosclerotic cardiovascular disease (ASCVD).



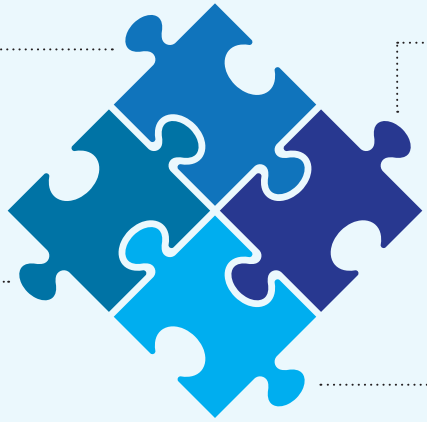
44.6% of VHA patients have HTN.

< 50% of high-risk veterans maintain BP < 130/80 mm Hg.

CVD in veterans is independently associated with increased odds of:

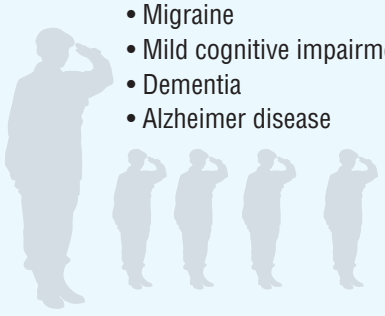
Mental Health Disorders
- Major depressive disorder
- PTSD
- Generalized anxiety
- Gambling disorder
- Suicidal ideation

Inflammatory Conditions
- Arthritis
- Chronic pain



Renal Conditions
- Kidney disease

Neurological Disorders
- Insomnia
- Migraine
- Mild cognitive impairment
- Dementia
- Alzheimer disease



Improving Hypertension in the VHA[2,3,5]

Veterans Diagnosed With HTN, by Race

- Black **54.2%**
- White **49.5%**
- Native Hawaiian or other Pacific Islanders **47.4%**
- American Indian and Alaska Native **44.4%**
- More than 1 race **41.8%**
- Hispanic **39.6%**
- Asian **36.5%**

The Role of Video Blood Pressure Visits

In 2018, nurses at 2 VHA health care facilities (Tampa, FL and Boston, MA) implemented the use of **VBPVs** through the **VHA Video Connect (VVC)** platform.

At 1 of the sites, providers completed...

4× as many VVC visits as other VHA providers in their regional network.

The early study found that **both sites increased VVC use.**

From **< 5%** To **> 85%**

Based on that preliminary success, a 2-year study evaluated the effectiveness of VBPVs in a larger veteran cohort.

Between 2020 and 2022, 81,476 veterans participated in a VBPV.

44,682 had an HTN diagnosis

3398 veterans with HTN lived in a rural area

Average Change in BP

Systolic	Diastolic
–10.6 mm Hg	–4.61 mm Hg

VHA patient site staff who received VBPV training identified the following program benefits:

- ✔ Encouraged use of virtual visits
- ✔ Offered an alternative means for monitoring BP
- ✔ Increased veterans' knowledge of their health
- ✔ Facilitated patient-centered care
- ✔ Increased provider knowledge about using patient databases to help address population-specific disparities in care

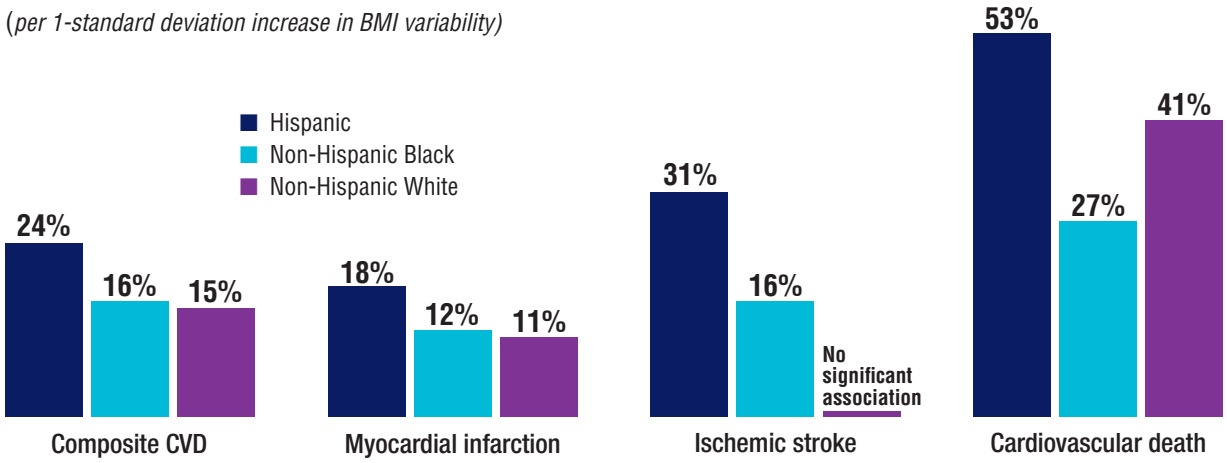
VBPVs provided veteran-centered care and support of HTN management through medication adjustments and lifestyle counseling. This care option was associated with a reduction in BP—while reducing travel costs, appointment barriers, and missed follow-ups.[1]

BMI Fluctuations and Risk of Cardiovascular Events[6]

Researchers investigated the association between long-term BMI variability and adverse cardiovascular events across different racial and ethnic groups. Data were analyzed from 2 large cohorts: the Million Veteran Program (92,363 veterans) and the United Kingdom Biobank (65,047 patients).

% Risk Increase

(*per 1-standard deviation increase in BMI variability*)

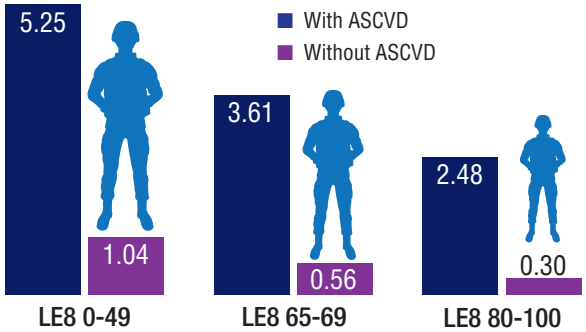


Predicting ASCVD Risk in Veterans[7]

The American Heart Association's proposed Life's Essential 8 (LE8) score is an enhanced measurement tool for cardiovascular health (CVH). Scores range from 0 to 100, with higher scores indicating better CVH. A recent study examined the association of LE8 scores with the risk of ASCVD incidence and prognosis in a cohort of more than 413,000 veterans (mean age = 65.8 years).

MACE Incidence in Veterans With vs Without ASCVD

Shown as incidence rate ratios per 100 person-years



ASCVD Incidence in Veterans with Low CVH vs High CVH

Shown as incidence rate ratios per 100 person-years

Low CVH defined as LE8 score 0-49; High CVH defined as LE8 score 80-100.

Pulmonology

Veterans experience unique risk factors for respiratory diseases, including environmental exposures such as Agent Orange and burn pits, and behavioral factors such as increased cigarette smoking.[1-3] Veterans with obstructive pulmonary diseases also have high rates of mental and physical health comorbidities, with approximately 15% of this population reporting probable major depressive disorder (MDD), and another 15% reporting probable generalized anxiety disorder (GAD).[4]

Chronic obstructive pulmonary disease (COPD) is more prevalent in veterans than civilians overall (8-19% vs 6%), but this varies with age.[1,4,5] Prevalence is similar between younger civilians and veterans, but higher in veterans aged > 60 years compared to age-matched civilians.[1] Veterans also experience high rates of sleep apnea, which is 28% more likely in veterans with TBI compared with veterans without TBI.[6,7]

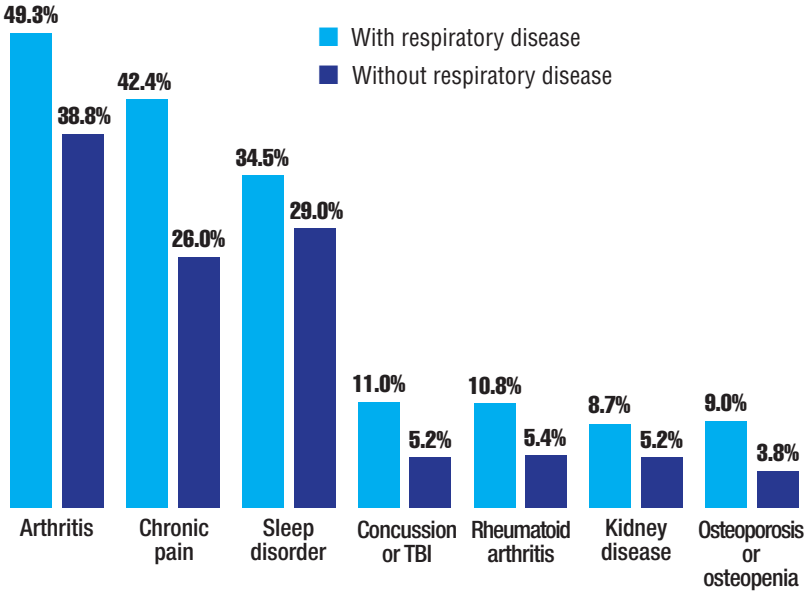
Characteristics of Veterans With Obstructive Respiratory Disease[4]

A recent study examined the prevalence of self-reported diagnosis of obstructive pulmonary disease (eg, asthma, chronic bronchitis, or COPD) and other physical and mental health comorbidities in a nationally representative sample of 3671 veterans. **12.5%** of veterans reported **obstructive respiratory disease.**

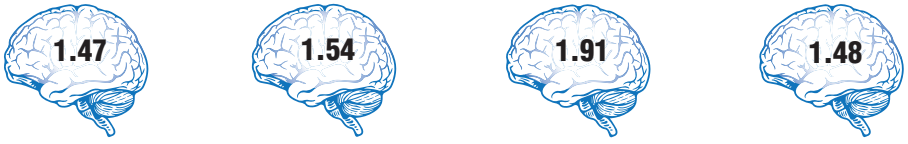
Veterans with respiratory disease were more likely to be/have…
(compared to veterans without respiratory disease)

- ✔ Female: **14.1% vs 8.6%**
- ✔ Single or unpartnered: **32.1% vs 27.4%**
- ✔ Income ≤ $60,000 annually: **49.7% vs 41.4%**
- ✔ Residing in the Midwest: **25.2% vs 21.0%**
- ✔ Receiving VA healthcare: **29.4% vs 20.3%**
- ✔ Greater lifetime trauma burden: **0.4% vs 0.2%**

Physical Health Comorbidities



Mental Health Comorbidities



Displayed as odds ratios. Compared to veterans without respiratory disease.

Extreme Weather–Related Mortality in Veterans With COPD[8]

A study of 377,545 deceased patients diagnosed with COPD in the VHA looked at the **relationship between mortality and heat and cold wave exposure** between 2016 and 2021. Attributable risk was calculated to determine the number of excess deaths among veterans with COPD that could be directly linked to heat or cold wave exposure and identify potential at-risk groups. **9% and 7% of all mortality occurred during heatwaves and cold waves,** respectively.

Attributable Risk of Death

per 100,000 patients

Heatwaves
Cold waves

Total veteran population

459 vs 1163

By comorbidities

Only COPD
827 vs 1704

COPD and asthma
14,016 vs -1851

By urbanicity

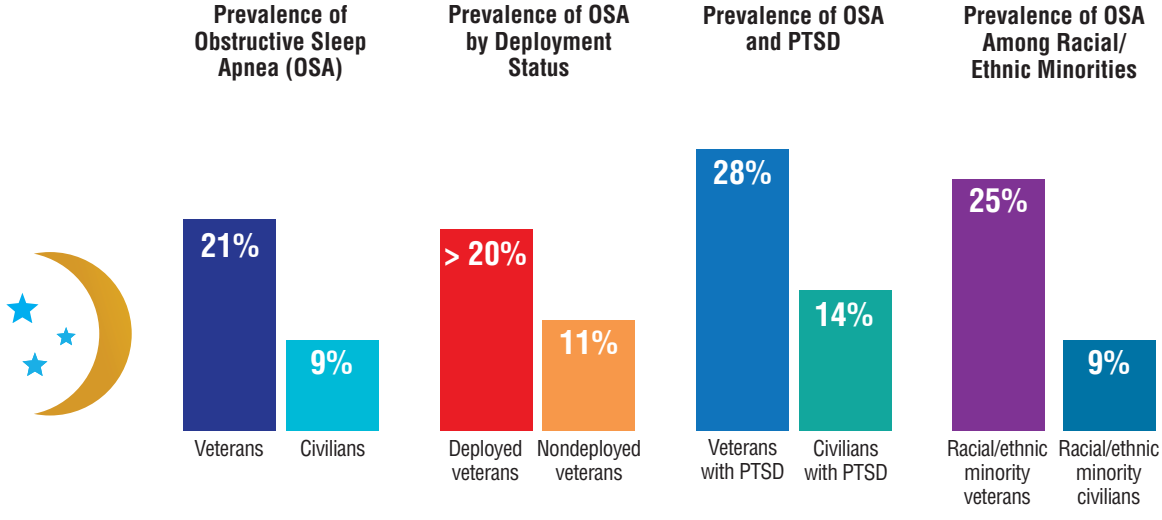
Urban
790 vs 1261

Rural
-75 vs 1035

Highly rural
-336 vs 819

Negative numbers represent a protective effect

Prevalence of OSA in Veterans[6]



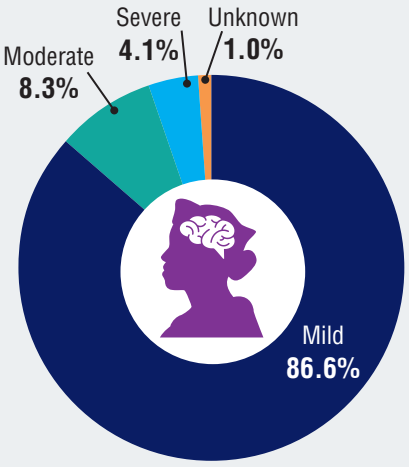
Neurology

Active-duty military personnel and veterans experience unique neurologic morbidity compared to the general population.[1] Over 500,000 service members have been diagnosed with TBI from 2000-2024.[2] Many of these veterans have mental and physical health comorbidities, and up to 84% higher risk of all-cause mortality.[3,4] TBI is associated with other neurological conditions, such as posttraumatic headaches, migraines, and epilepsy.[5,6] In a large cohort study, migraine prevalence was found to be approximately 10%, with prevalence as high as 30% in women veterans.[5] Migraine and TBI co-occur in 2.3% of veterans, exacerbating cognitive dysfunction more than either condition alone.[7] Veterans with multiple sclerosis (MS) face higher risks of dementia, depression, and cannabis use disorder, with mental health risks being amplified by younger age, minority status, combat exposure, and disability.[8,9]

TBI in Post-9/11 Veterans[10]

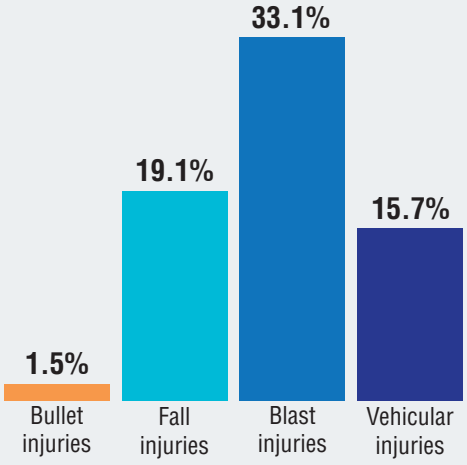
2001 — The VA TBI Health Registry includes **441,639 veterans** with TBI symptoms who sought care from September 2001 to September 2021. — 2021

Severity of Cases



Reported Injury Etiologies

In those with 1 TBI reported



Health Care Visits and Utilization

Hospitalizations
66,503

Outpatient visits
1,521,898

This cohort represents 28.5% of all post-9/11 veterans who sought care at the VHA over a 2-decade period. Veterans with TBI accounted for 11.0% of all inpatient care and 12.1% of all outpatient visits at the VHA. More than 108,000 veterans from this group submitted TBI-related disability claims.

Racial/Ethnic Differences in Veterans With TBI[4]

A study of **2.5 million post-9/11 veterans** compared all-cause and cause-specific mortality in veterans with and without TBI.

Veterans with TBI had higher....

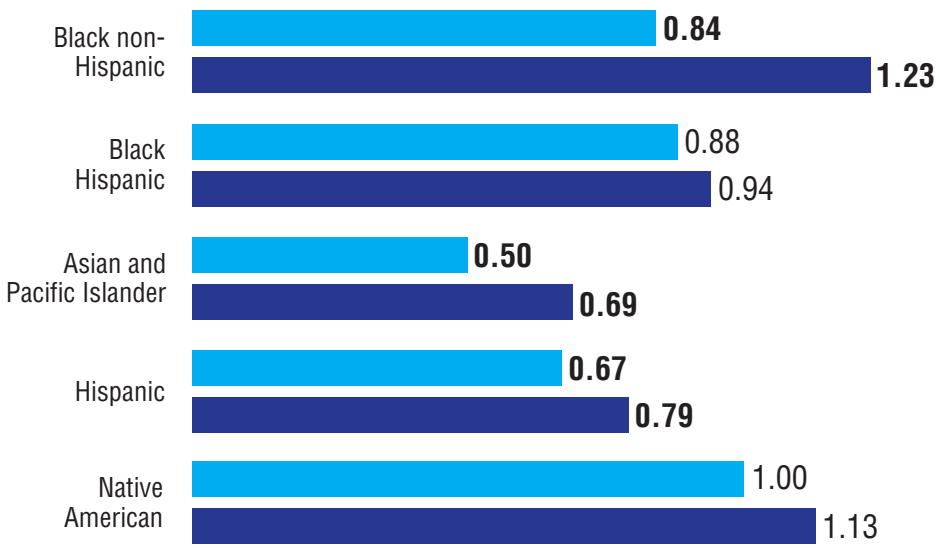
- All-cause mortality | **1.84**
- Cardiovascular disease mortality | **1.64**
- Cancer mortality | **1.12**

Displayed as mortality rate ratios

All-Cause Mortality Rate by Race

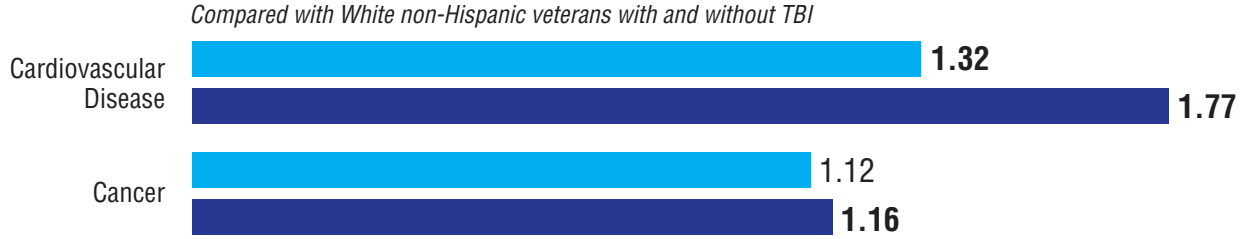
Compared with White non-Hispanic veterans with and without TBI

Displayed as mortality rate ratios; statistically significant numbers are bolded.

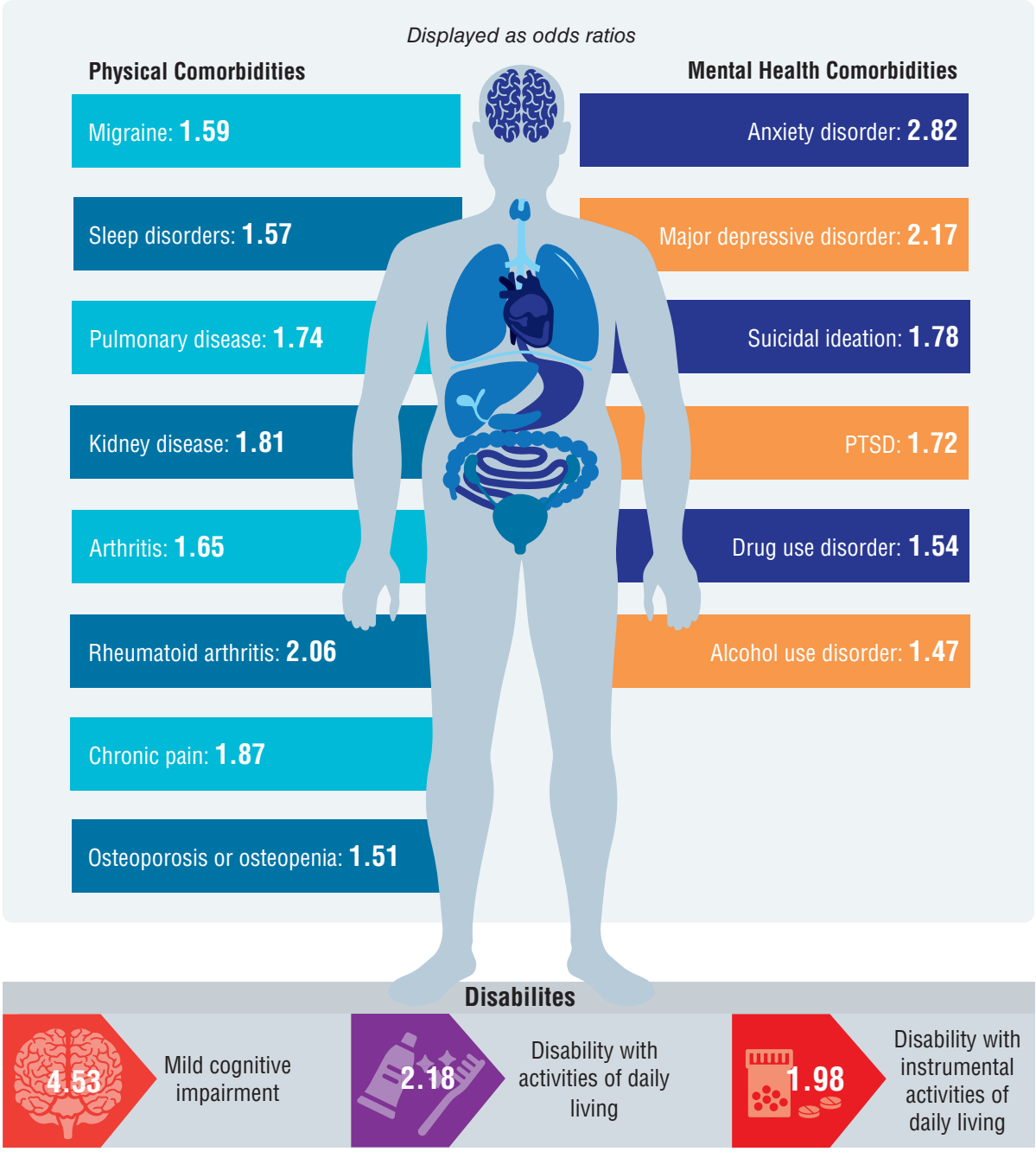


Specific-Cause Mortality in Black Veterans

Compared with White non-Hispanic veterans with and without TBI



TBI and Comorbidities[3]



Activities of daily living include tasks like bathing and dressing, whereas instrumental activities of daily living are more complex processes such as financial and medication management.

A 2024 study showed an estimated 24.5% of veterans had probable TBI, with **significantly higher rates of comorbidities and disabilities** than their peers, reflecting the complex sequelae associated with TBI.

Migraine Prevalence and Associated Factors in Veterans[5]

By Race

Hispanic women: **34.7% - Highest**

White men: **7.7% - Lowest**

By Service or Deployment

Post-9/11 Service: **21.1%**

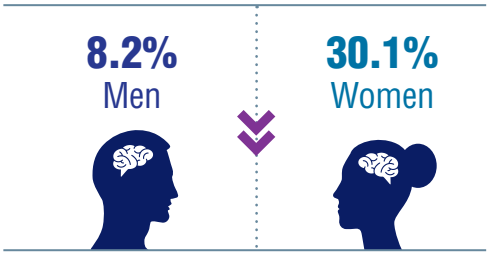
Post-9/11 Deployment: **20.9%**

By Exposures

Agent Orange: **8.1%**

Anti-nerve agent pill history: **22.0%**

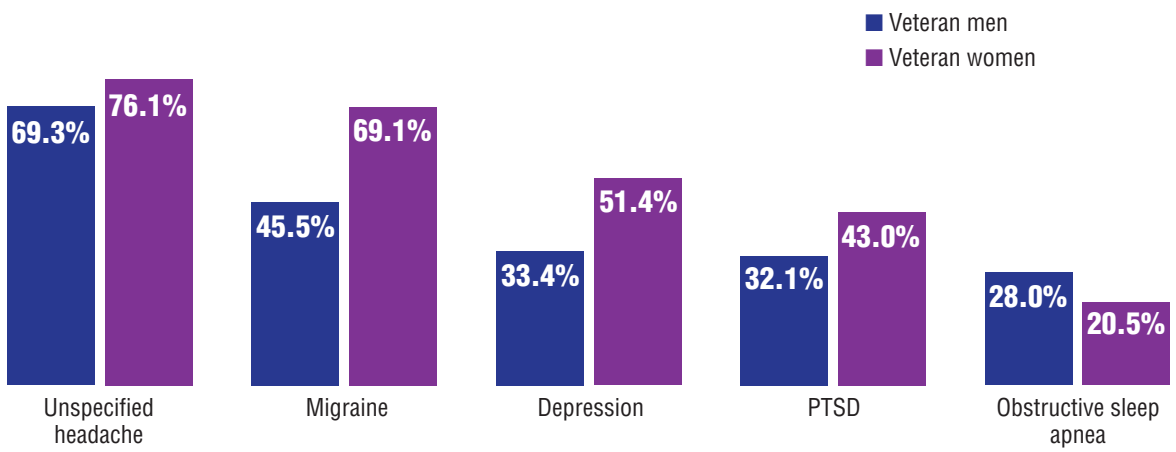
Lifetime Prevalence



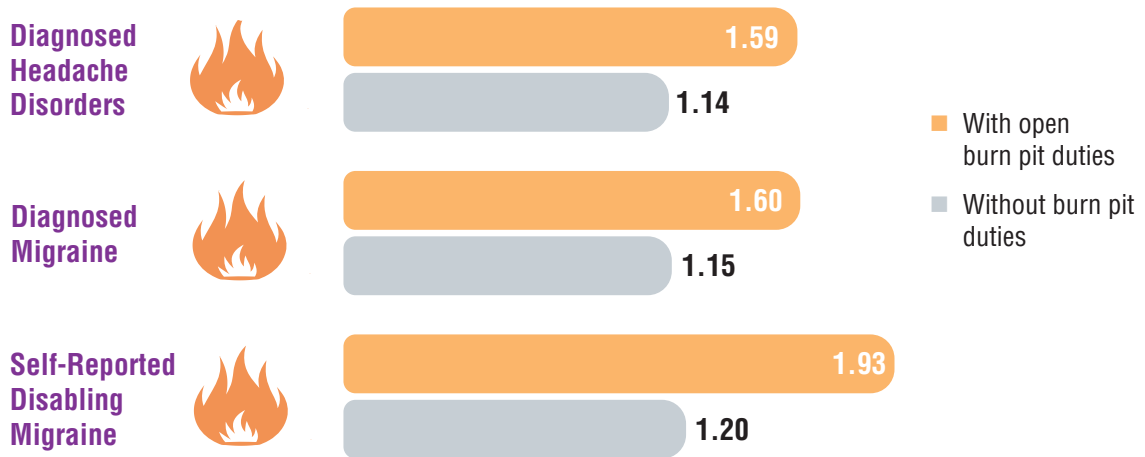
A study of 491,604 veterans analyzed data from the Million Veteran Program to assess the prevalence of migraine and the effect of comorbidities and military service exposures. **Veterans with migraine were younger** (by 8.7 years on average), **less likely to be married or cohabiting,** and **less** l**ikely to have a household income < $60,000** than veterans without migraine. Migraine was also associated with TBI, with an odds ratio of 4.82 in men and 2.92 in women.

Gender Differences in Cluster Headache Comorbidities[11]

Prevalence of Comorbidities



Burn Pit Exposure in Veterans With Migraine or Headache[12]

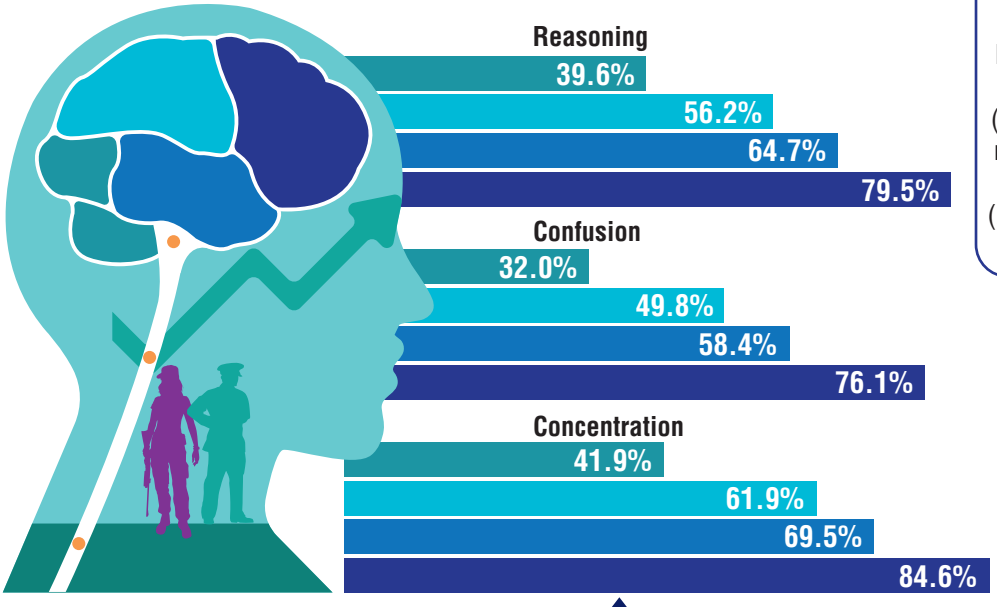


Both groups had exposure to an open burn pit.
Displayed as adjusted odds ratios

A 2024 study was the first to report an association between migraine and headache disorders and burn pit exposure in veterans. This relationship existed even with controlling for other medical comorbidities like TBI. Veterans in the highest quartiles of burn pit exposure (290-448 days and > 448 days) had the greatest odds for developing headache disorder and migraine.

Cognitive Symptoms in Veterans With Co-occuring TBI and Migraine[7]

Veterans Reporting Cognitive Symptoms



A study of **338,217 veterans** enrolled in the Million Veteran Program found that 30,080 (8.9%) veterans reported migraine, 31,906 (9.4%) reported TBI, and 7828 (2.3%) had both migraine and TBI.

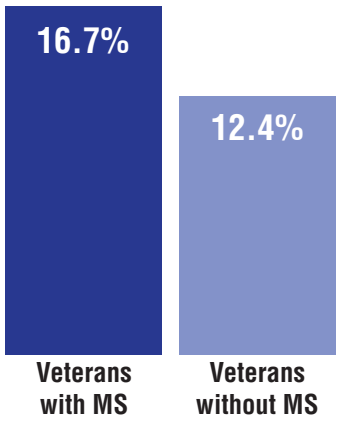
Veterans with both migraine and TBI reported the highest level of cognitive symptoms compared with veterans with either condition alone. Psychiatric conditions were also highest in veterans with both migraine and TBI. Depression was present in 64.4% of veterans with both conditions, compared with 47.1% of veterans with only migraine and 41.8% of those with only TBI.

Dementia Risk in Veterans With MS[8]

Risk for Dementia

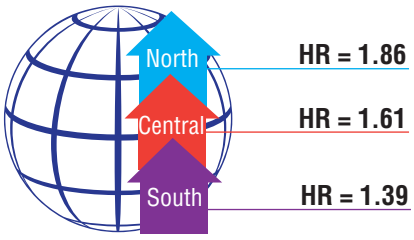
Cumulative incidence in veterans aged ≥ 55 years

There was a **56% increased risk for dementia** even after adjusting for confounders, such as demographic factors and comorbidities.



MS-Dementia Association Modifiers

Geographic latitude



Substance use disorder
HR = 0.88

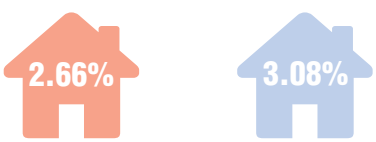
HR, hazard ratio

Psychiatric Comorbidities in Veterans With MS[9]

Mental Illness Prevalence

With MS | Without MS

Veterans Experiencing Homelessness



With MS | Without MS

Mental health conditions associated with MS…

- ✔ Cannabis use disorder: **1.20**
- ✔ Major depressive disorder: **1.29**

Mental health conditions not associated with MS…

- ✔ Alcohol use disorder: **0.59**
- ✔ Stimulant use disorder: **0.57**
- ✔ PTSD: **0.69**
- ✔ Schizophrenia/schizoaffective disorder: **0.61**

Displayed as odds ratios

Recent research has shown that patients with MS were more likely to report recent cannabis use vs controls, while chronic opioid use in patients with MS has declined. Younger age, being unmarried, racial/ethnic minority status, combat exposure, and disabilities were linked to higher rates of mental illness in veterans with MS.

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Mental Health

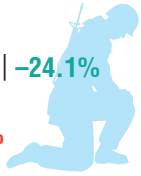
Suicide is the second leading cause of death for US veterans aged 18 to 44 years.[1] The 2024 National Veteran Suicide Prevention Annual Report disclosed that of the 6407 veterans who died from suicide in 2022, 60% had a prior mental health diagnosis.[1] The report showed improved suicide rates among veterans with certain mental health conditions, such as depression, PTSD, and anxiety, from 2001 to 2022, potentially due to expanded mental health care access for patients with trauma and increased telehealth availability.[1,2] For conditions like PTSD, receiving first-line evidence-based treatment also lowered suicide risk.[3] Veteran suicide rates have risen 16.2% for those with opioid use disorder since 2001, while falling 13.7% for alcohol use disorder—though the latter rose 1.2% between 2021 and 2022.[1]

If you or someone you know is having thoughts of suicide, **call or text 988 to reach out to the National Suicide Prevention Lifeline, or contact the Veterans Crisis Line: www.veterancrisisline.net.**

Veteran Suicide and Mental Health Trends[1]

Suicide rates per 100,000 person-years; %s represent change from 2021

2022 Suicide Rates



- Female veterans | **13.5** | **–24.1%**
- Female civilians | **7.2** | **+5.2%**
- Male veterans | **37.3** **+1.6%**
- Male civilians | **28.7** **+1.8%**
- Veterans aged 18-34 | **47.6** **–3.8%**
- Veterans aged 35-54 | **35.5** **No change**
- Veterans aged 55-74 | **31.2** **+4.4%**
- Veterans aged ≥ 75 | **33.8** **+4.9%**

2022 Suicide Rate by Mental Health Diagnosis

- Anxiety **60.3** | **–5.8%**
- Depression **65.1** | **–0.1%**
- PTSD **51.3** | **–1.6%**
- Bipolar disorder | **125.4** **–3.6%**
- Schizophrenia **92.6** | **–6.1%**
- Other psychoses | **207.1** **+25.7%**
- OUD | **114.3** **–5.1%**
- AUD | **92.1** **+1.2%**
- Cannabis use disorder **114.8** | **+5.6%**
- Sedative use disorder | **236.7** **+1.2%**
- Stimulant use disorder **153.6** | **–21.2%**

AUD, alcohol use disorder; OUD, opioid use disorder

High-Risk ED Visits for Suicidality and Overdose[4]

In a cohort of nearly 180,000 veterans with more than 300,000 high-risk emergency department (ED) visits for suicidality or overdose, **more than 2% died within 90 days of their hospitalization.**

90-Day All-Cause Mortality Rate

- **2.81 ×** higher than other VHA ED users
- **4.15 ×** higher than other VHA users
- **4.42 ×** higher than the US general population

Displayed as standardized mortality ratios

Mortality Causes

Standardized mortality ratio (SMR) compared to other VHA ED Users

Intentional self-harm (suicide)	Overdose	Accidents	Chronic respiratory diseases	Heart diseases	Cerebrovascular disease
SMR = 20.90	**SMR = 12.30**	**SMR = 6.05**	**SMR = 2.83**	**SMR = 3.18**	**SMR = 2.82**

Patients with high-risk ED visits had increased mortality rates compared to other VHA ED users, other VHA users, and the US general population. This increase was highest in Asian or Pacific Islander and White veterans (SMR = 3.50, SMR = 3.11, respectively, compared to other VHA ED users).

Virtual Mental Health Visits and Suicide-Related Events[2]

To assess the **impact of telehealth on suicide-related events** (SREs; attempts, intentional self-harm, or deaths), a study analyzed electronic health records of 16,236 veterans who completed active-duty service between 2019 and 2020. Patients had received ≥ 2 outpatient or 1 inpatient mental health diagnosis within 1 year prior to their service separation.

929 SREs were identified from **66,387 data points.**

44.6% of mental health care visits... were virtual.

Each **1%** increase in probability of virtual mental health visits...

led to a **2.5%** decrease in SREs.

Depression and Suicide Risk Screening During the Pandemic[5]

Between October 2018 and September 2023, **9.2 million patients** were screened for depression or suicide risk in the VHA. A mean of **278,668 depression screenings and 333,470 suicide screenings** were administered monthly. 7.4% of depression screens and 1.7% of suicide risk screens were positive.

Change in Odds of Screens

Compared to before the pandemic: 10/1/18 – 2/30/20

Early pandemic: 2/1/20 – 9/30/21

Late pandemic: 10/1/21 – 9/30/23

Monthly depression screens

+ 0.7% | No change

Monthly suicide risk screens

- 1.6% | - 1.9%

Positive depression screens

+ 2.1% | + 1.9%

Positive suicide risk screens

+ 1.4% | No change

Early in the pandemic, there was a slight but significant increase in positive screens for depression and suicide risk among veterans who were screened in the VHA. While screening rates remained largely stable for depression, suicide risk screening declined during this period.

Suicide Risk for Veterans Receiving PTSD Treatment[3]

Initiation of evidence-based therapies—cognitive processing therapy (CPT) or prolonged exposure (PE)— was associated with **23% lower suicide risk** in a cohort of > 840,000 veterans with PTSD.

Receipt of ≥ 8 sessions was not associated with any added benefit.

Demographic Influences on Risk

In veterans who all initiated CPT or PE

Age

35-54 years: 24% lower risk

55-74 years: 50% lower risk

vs veterans aged 18-34 years

Race/Ethnicity

Asian: 58% lower risk

Black: 70% lower risk

Hispanic: 44% lower risk

vs White veterans

Sex

Female veterans: 56% lower risk

vs male veterans

Region

Midwest: 37% higher risk

South: 41% higher risk

West: 50% higher risk

vs veterans in the Northeast

Anxiety Disorders in Veterans[6]

Prevalence of Anxiety

Displayed as odds ratios

Veterans with mild anxiety were more likely to be…
- ✔ Retired: **1.30**
- ✔ Have enlisted in the military (vs drafted or commissioned): **1.20**
- ✔ Have adverse childhood experiences: **1.18**

Veterans with mild anxiety were less likely to be…
- Older: **0.97**

Veterans with probable GAD were more likely to be…
- ✔ Male: **1.91**
- ✔ Have adverse childhood experiences: **1.22**
- ✔ Have experienced military sexual trauma: **3.01**

Veterans with probable GAD were less likely to be…
- Older: **0.94**
- Have income of > $60,000 per year: **0.47**

Veterans who screened positive for probable GAD were more likely to be combat veterans and to have served in ≥ 2 deployments, similar to trends observed in veterans with PTSD. They were also more likely to report greater cumulative trauma and past-year suicidal ideation.

Depression Treatment Utilization in Post-9/11 Veterans[7]

21.6% of veterans with depression received **less than minimally recommended treatment.**

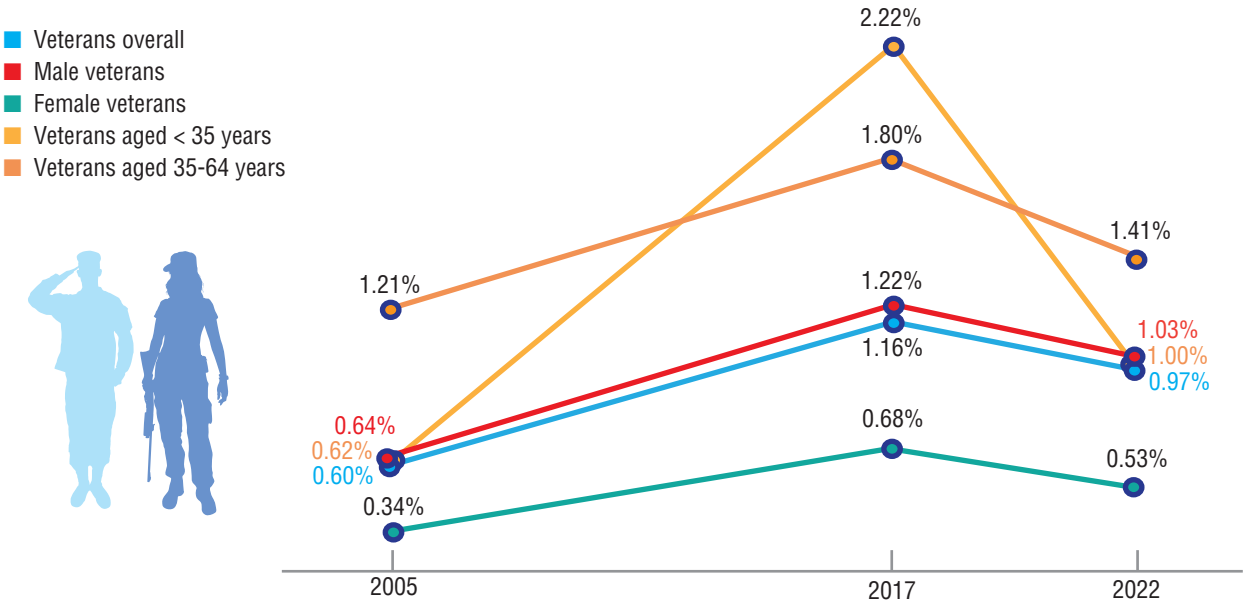
Increased Risk of Underutilization

Defined as < 4 psychotherapy sessions or < 84 days of antidepressants; displayed as odds ratios

Although comorbid PTSD was associated with delays in starting treatment, comorbid PTSD decreased risk of underutilization (0.9).

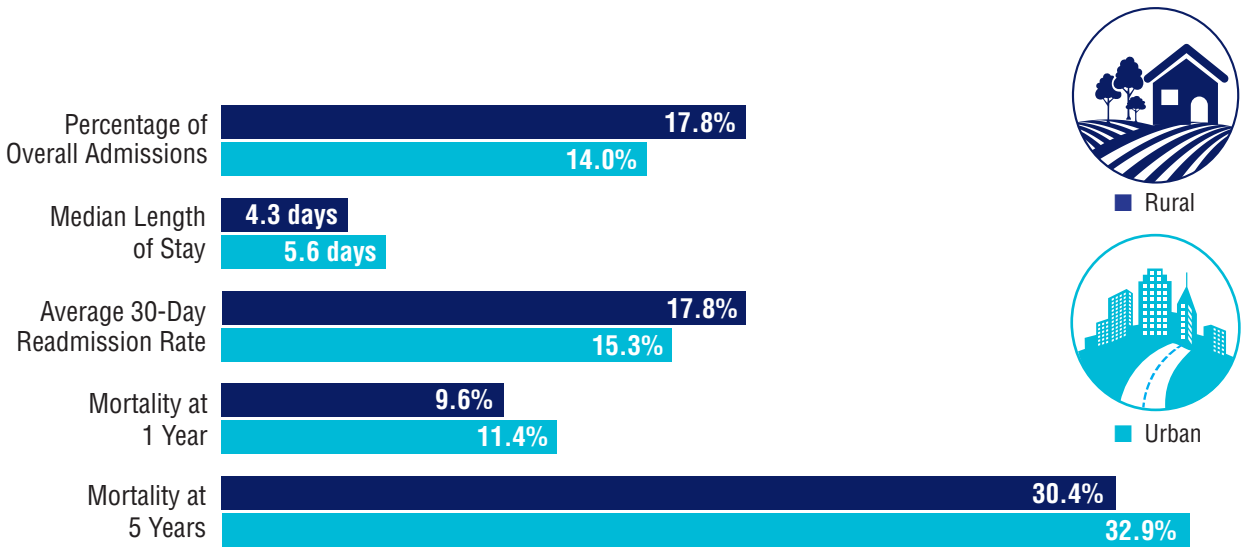
Opioid Use Disorder Trends in VHA[8]

Annual Percentage of OUD Diagnoses in VHA Patients



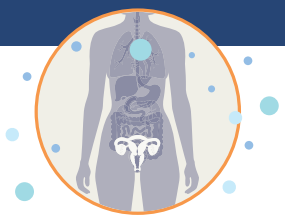
Rural vs Urban Hospitalizations for Alcohol Use Disorder[9]

In 2.9 million hospital admissions between 2016 and 2020,
14.3% of veterans had AUD-related diagnoses.



A higher proportion of veterans admitted to rural hospitals had an AUD diagnosis, but their length of stay was shorter than veterans in urban hospitals. They also had lower rates of ICU admittance but higher readmission rates, possibly due to limited outpatient substance abuse treatment programs in rural areas.

Women's Health

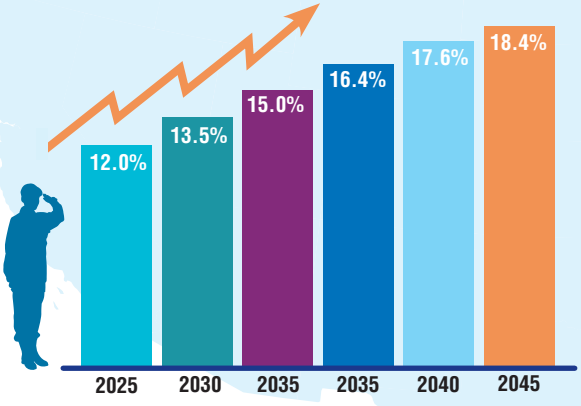


Women, the fastest-growing veteran subpopulation, represent over 10% of US veterans and are projected to reach 18% by 2040.[1] Currently, 28% of women veterans use VHA services, with 44% receiving VHA-funded community care.[2] While 86% of VHA women veterans are under 65, the population is aging.[3,4] Compared to male veterans, women experience higher rates of depression, anxiety, military sexual trauma (MST), musculoskeletal conditions, chronic pain, and PTSD—though evidence on sex differences in PTSD is mixed.[5,6] Women veterans also face pregnancy-related challenges, including childcare barriers, difficulty discontinuing pain medications, poor VHA-obstetric coordination, and higher perinatal mortality.

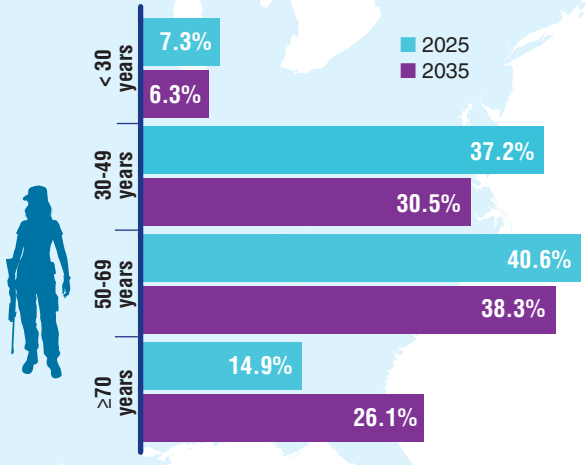
In 2010, VHA Directive 1330 established standards for women's healthcare, including designated women's health providers.[7] In 2018, Directive 1115 outlined MST-related care, screening, and free treatment.[8] Despite progress in women's healthcare and a greater sense of welcome at VHA, gaps persist in provider availability, community care coordination, and harassment within facilities.[9] Women veterans also report barriers such as lack of insurance, unaffordable care, transportation issues, and inability to take time off work.[10]

US Veteran Women Population Growth and Gender Disparities[1,11-15]

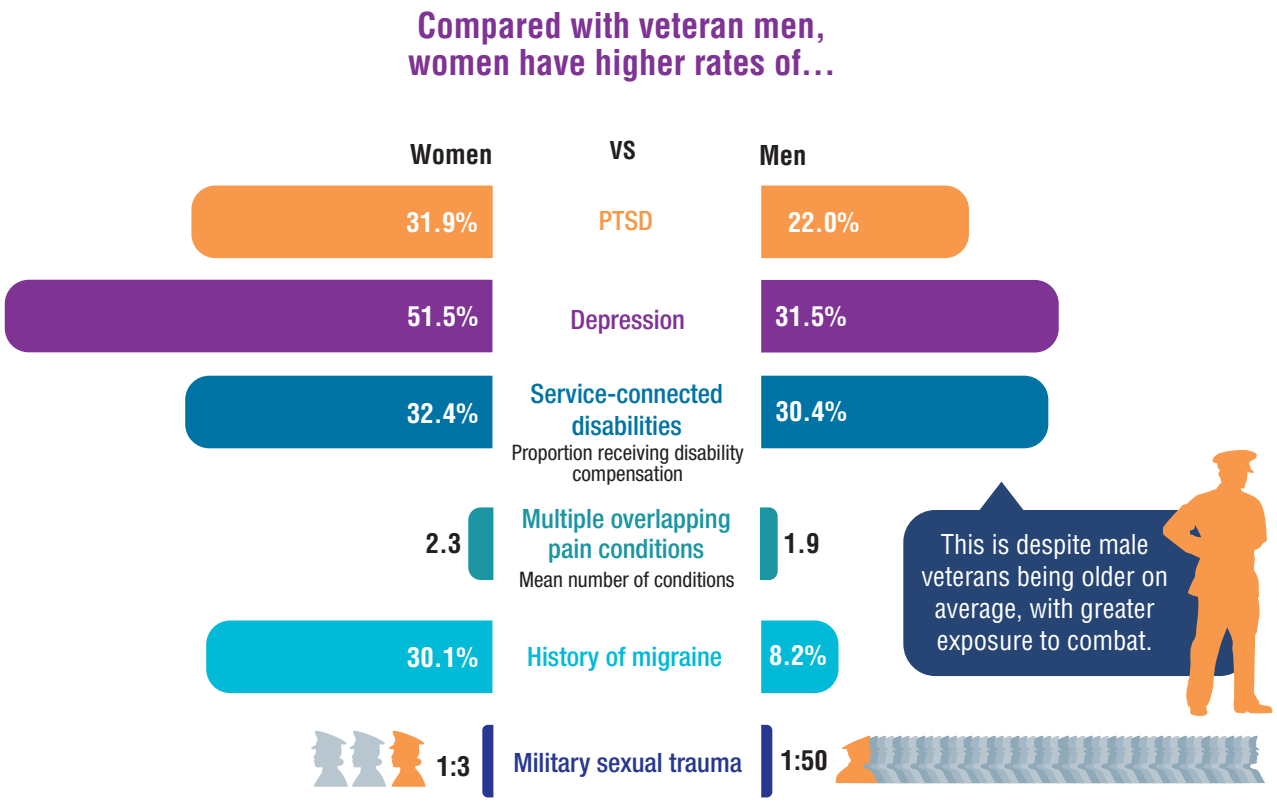
Projected % of US Veteran Women



% of Women by Age



In 2000, women comprised just **4%** of the veteran population.



Mental Wellness Challenges for Women Veterans[16-20]

Challenges

Intimate partner violence:
1 in 5 women veterans using VA primary care reported experiencing past-year intimate partner violence.

Substance use disorder:
37% of women veterans misuse alcohol, while **16%** have substance use disorders linked to combat and MST experiences.

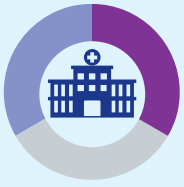
Reproductive health:
Pregnancy and ~1 year postpartum can be times of increased risk for mental health diagnoses (particularly depression) and suicidality, especially in women veterans with a prior mental health diagnosis.

Gaps in Care

Screenings:
Women veterans who screened negative for MST had VHA records indicating a history of MST; one study showed that **24.5% of women veterans have experienced MST**, higher than the previously estimated 15.4%.

Access:
1 in 4 women veterans **switched to a non-VA healthcare provider** because of limited hours of operation at the VA.

Gender-specific care:
1 in 12 women veterans **avoided using VA healthcare in the last 24 months** because they could not see a woman healthcare provider.



Awareness:
2 in 3 women VA healthcare users had received any type of VA information regarding healthcare benefit.

The Gulf War Study: PTSD and Early Menopause in Women Veterans[21]

Findings from a study of over 2000 Gulf War–deployed and Gulf War–era women veterans examining the relationship between PTSD and early menopause revealed…

5% **experienced early menopause** (eg, before age 45)

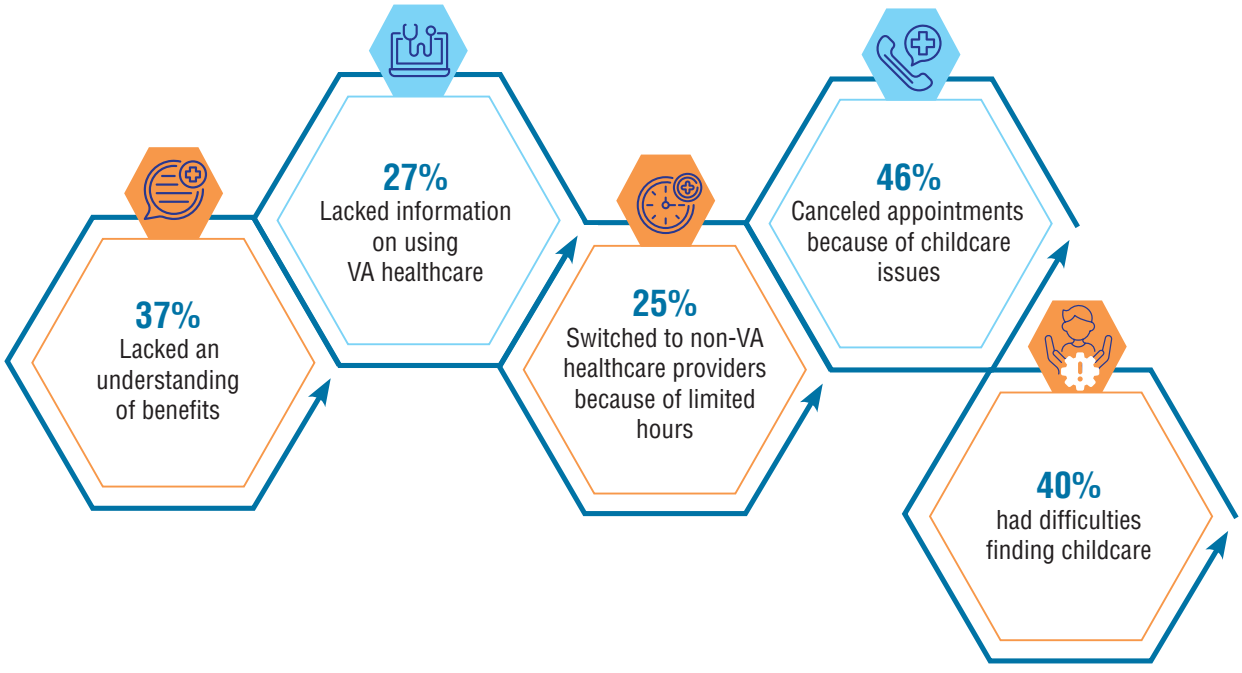
2X **risk increase** for early menopause in those with probable PTSD

The Gulf War cohort study did not find associations between early menopause and military-related factors, such as deployment, environmental exposures, Gulf War Illness, or military sexual trauma.

Barriers to Quality Care for Women Veterans[16,22]

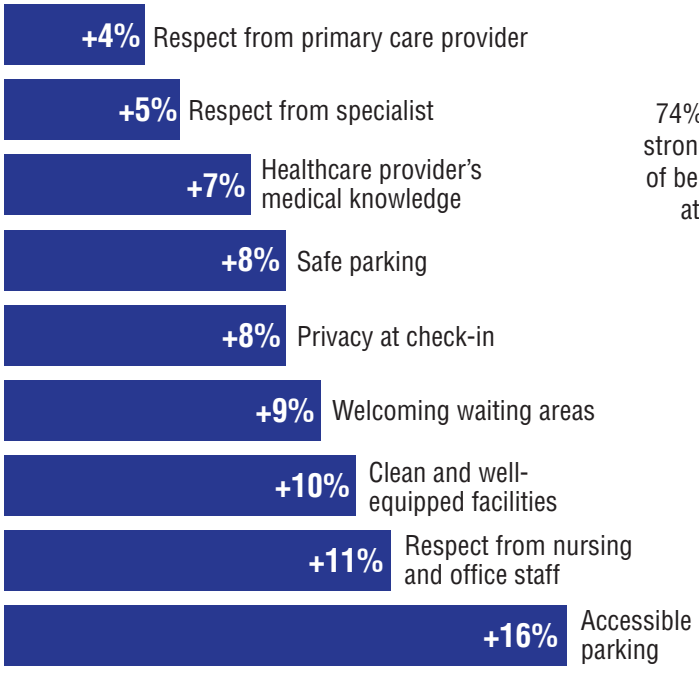
The VA Office of Women's Health conducted a survey of over **7300 women veterans** to assess patient-perceived barriers to healthcare.

The most significant barriers included:

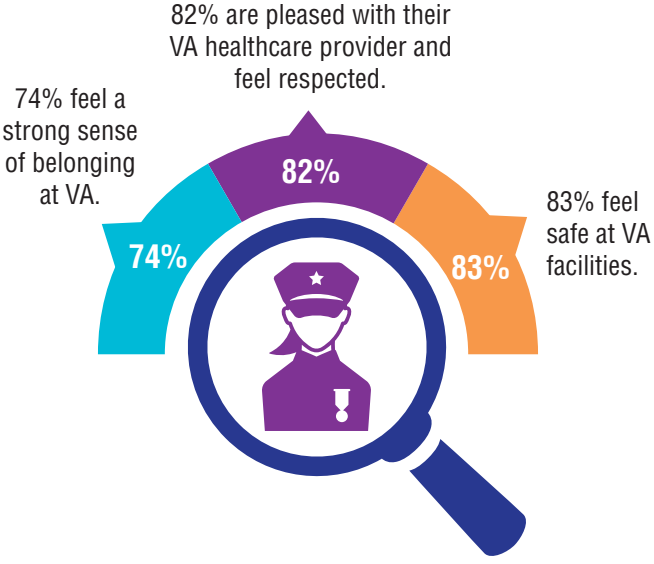


Improvements in patient satisfaction:

Compared with 2014 survey results



Positive takeaways from current women VA healthcare users:



VA Office of Inspector General Survey

VHA Maternity Care Coordinators (MCCs) were surveyed by the VA Office of Inspector General, which sought to understand the staffing, duties, and challenges of MCCs.

Staffing and Time

40% reported **insufficient time to perform their duties**, attributed to high patient caseloads and additional responsibilities outside of their MCC role.

Timely Access to Care

50% reported challenges in scheduling patients' routine prenatal visits within the first trimester.

38% reported **difficulties in expediting appointments for high-risk patients** or those seeking care later in pregnancy.

Billing and Patient Education

80% reported that billing was the top area needing improvement.

20% reported a **need for additional patient education resources** (childbirth preparation, lactation support, and parenting classes).

Both findings were due to community healthcare provider availability and delays related to community care facility processes.

Pregnancy-Associated Mortalities in Women Veterans[23]

A 2024 study investigated pregnancy-associated mortalities (PAM) and underlying causes among veterans who accessed VHA maternity care from 2011 to 2020.

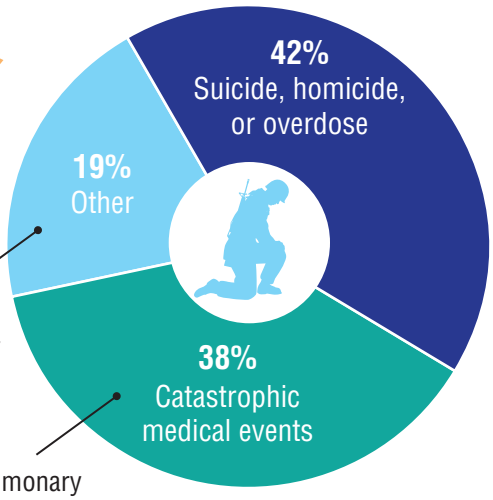
Key Findings

Of the **39,720** deliveries during this period,

- **32** PAMs were identified
- ✔ **81%** of these veterans had an **active perinatal mental health condition**

Among those patients in the mental health cohort…

Causes of Death



Unknown, poorly defined, or accidental causes; cancer accelerated by pregnancy; pneumonia

Including cardiac events, pulmonary embolus, aneurysm, and sepsis

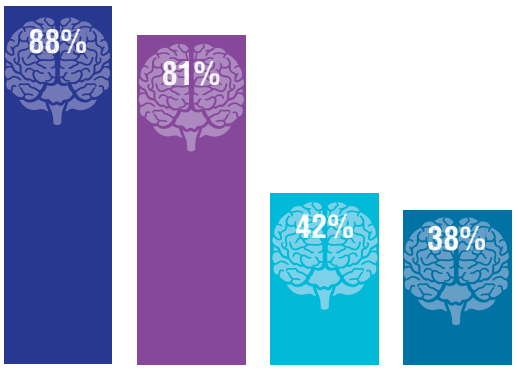
Pregnancy-Associated Mortalities in Women Veterans[23] (continued)

Timing of Death

During pregnancy or within 42 days postpartum

Late postpartum period: 43-365 days

Mental Health Diagnoses



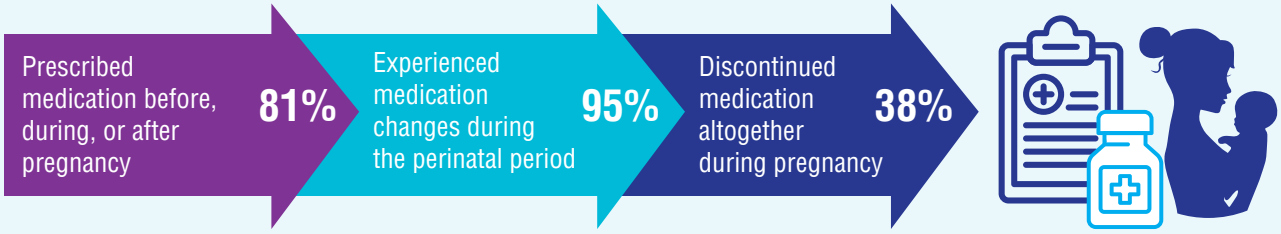
Depressive disorders

Anxiety disorders

PTSD

Substance use disorders

Psychotropic Medications Prescribed to Study Participants



Racial Disparities

27% of deaths occurred in Black women, reflecting national trends of disproportionately higher PAM rates compared with White women.

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LGBTQ+ Care

In 2018, among 1.33 million active-duty service members, 6.3% (approximately 83,800) identified as LGBTQ+.[1] LGBTQ+ service members and veterans report facing disparities, including discrimination, harassment, minority stress, and military sexual trauma.[2] Studies have shown they are more likely to be diagnosed with PTSD and mood, anxiety, and substance use disorders.[3] Within the VHA, LGBTQ+ veterans report barriers like lack of provider awareness, harassment, stigma, and negative reactions.[2]

LGBTQ+ Veteran Disparities in VHA Care[4,5]

Sexual minority (SM; n = 1935) and heterosexual (n = 64,413) veterans were interviewed about the care they received through VHA primary care services, **focusing on healthcare experiences and health-related screenings.**

SM veterans were **less likely to report that…**

Findings
(adjusted odds ratios)

- ✔ Their provider listened carefully | **0.71**
- ✔ Someone in the office gave clear information about health questions or concerns | **0.73**
- ✔ Their provider showed respect | **0.76**
- ✔ Someone in the office spent enough time with them | **0.80**
- ✔ They have been asked if they have any difficulty taking care of their health | **0.81**

Similarly, a survey of LGBTQ+ (n = 190) and non-LGBTQ+ (n = 1201) women veterans found that LGBTQ+ women were less likely to feel welcomed at VHA and more likely to feel unsafe, experience harassment, and delay or miss care due to concerns about interactions with other veterans.

Higher Health Risks and Care Barriers[2,6-8]

Compared with their heterosexual and cisgender peers, **LGBTQ+ veterans have higher rates/risk of…**

Mental Health Conditions

These include depression, anxiety, PTSD, and life-ending ideation.

2x Female LGBTQ+ veterans experience **2x higher rates of depression and anxiety symptoms.**

(vs non-LGBTQ female veterans)

Substance Use Disorders

Chronic and alcohol-related deaths often stem from coping with minority stress and discrimination.

3x LGBTQ+ veterans are **3x more likely to engage in substance use** and other risky behaviors.

(vs heterosexual veterans)

Chronic Health Conditions

Fewer preventive care visits exacerbate chronic conditions.

1.5x-2x Hypertension, diabetes, and cardiovascular diseases are **1.5x to 2x more prevalent.**

(vs heterosexual veterans)

Unmet Healthcare Needs

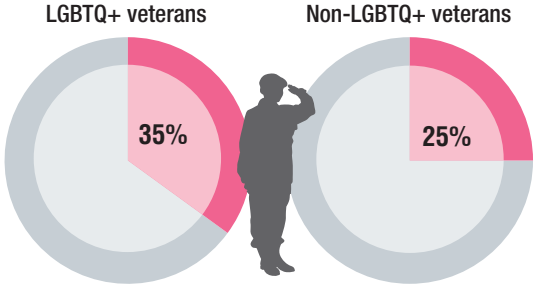
Gaps remain in treatment access, provider training and open mindedness, and overall patient satisfaction with practices.

of LGBTQ+ veterans report discrimination or stigma in VHA care.

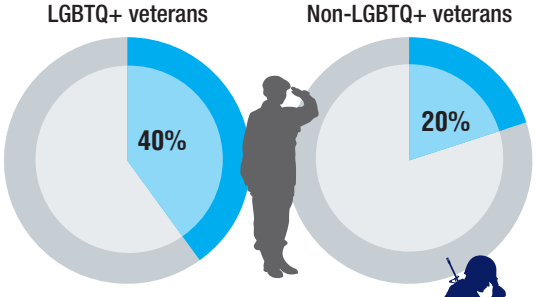
A Deeper Look at Mental Health[6,9]

LGBTQ+ veterans are more likely to…

Access VA mental health services (MHS)



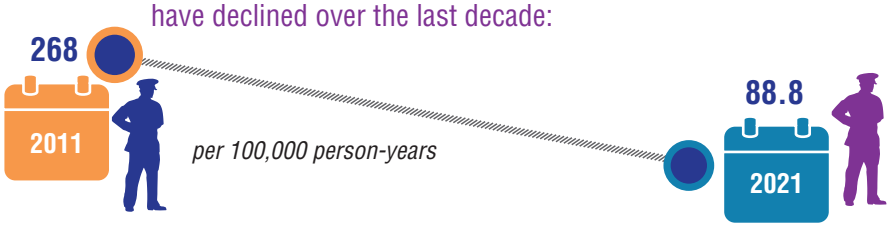
Receive a mental health diagnosis (MHD)



LGBTQ+ veterans succumb to suicide at **2x** the rate of the general veteran population using VHA services.

Those aged **18-34 years** are most at risk.

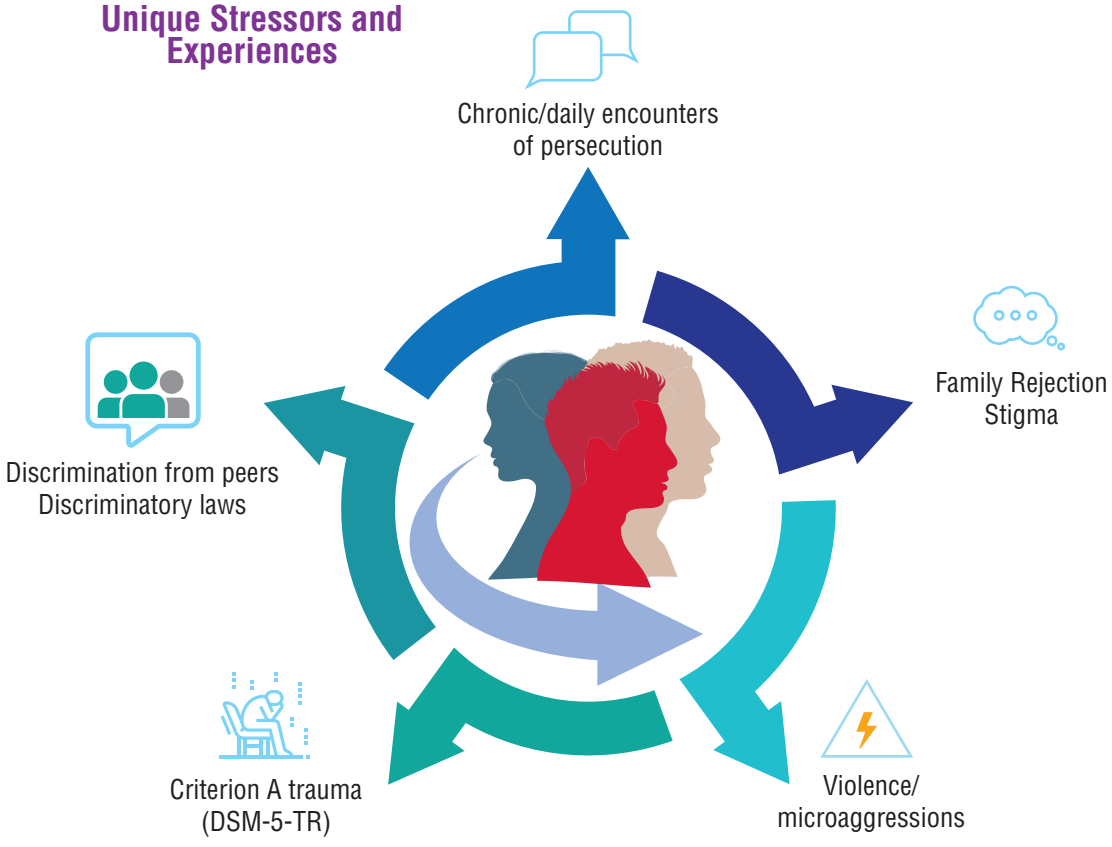
Reported LGBTQ+ veteran suicide rates have declined over the last decade:



Burden of Trauma and Minority Stress[3,9,10]

LGBTQ+ individuals **have higher rates of trauma, and social and minority stress.**

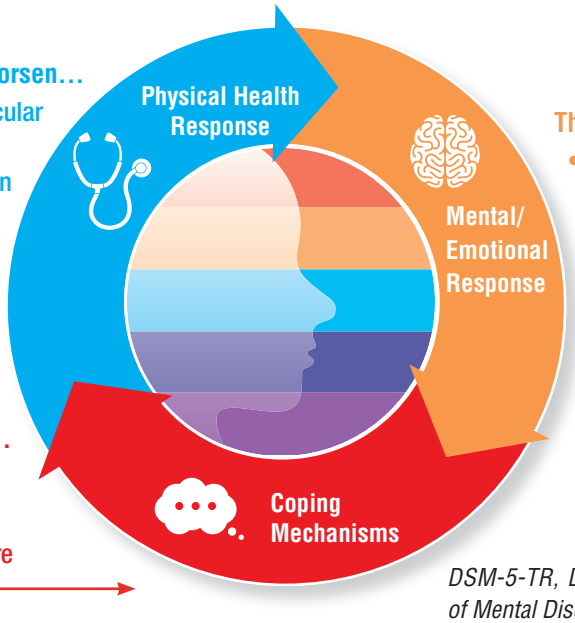
Unique Stressors and Experiences



These stressors can lead to…

Minority stress and trauma can worsen…

- Chronic conditions like cardiovascular disease and hypertension
- Gastrointestinal disorders and pain
- Weakened immune function



These stressors contribute to…

- Social isolation within military or personal life
- Higher rates of depression and anxiety
- Increased risk of PTSD and complex trauma

LGBTQ+ veterans often turn to…

- Substance use
- Sexual risk-taking
- Delayed/avoidance of healthcare

DSM-5-TR, Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision

HIV

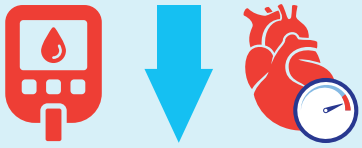
The VHA exceeds national benchmarks for human immunodeficiency virus (HIV) viral suppression rates, although suppression rates are lower than the VHA average among younger, female, Latino, and rural veterans.[1] Cardiovascular health is an emerging concern for veterans with HIV, who experience higher mortality and severe events like stroke, despite fewer traditional risk factors.[2]

Comparing MACE in Veterans With and Without HIV[2]

Clinical characteristics and mortality outcomes were compared in a cohort of veterans with (n = 2510) and without HIV (n = 277,801), who experienced their first MACE between 2003 and 2021.

Veterans with HIV had…

Lower prevalence of:



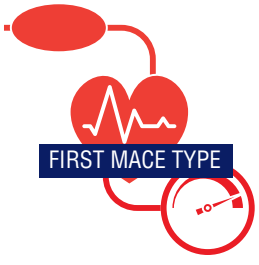
Lower 10-year cardiovascular risk score:

Yet, Veterans with HIV…

Have twice the risk of death following their first MACE

Are younger at first MACE

Are more likely to be African American



People with HIV had a higher proportion of:		
Cerebrovascular accident	27.0%	21.3%
Cardiac arrest	13.0%	8.4%
And a lower incidence of:		
Acute myocardial infarction	62.4%	72.5%
	With HIV	Without HIV

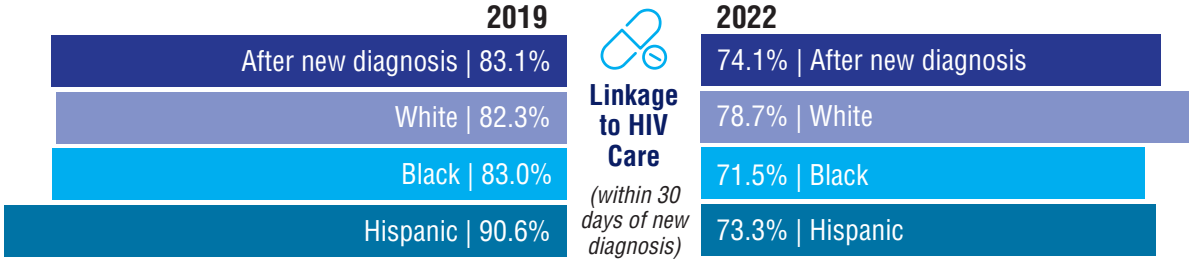
Despite having fewer traditional risk factors, **veterans with HIV had a significantly higher risk of early and more severe cardiovascular events,** particularly **stroke and cardiac arrest,** and **died at higher rates** than their counterparts without HIV.

VHA HIV Care Outcomes: Before vs After the Pandemic[3]

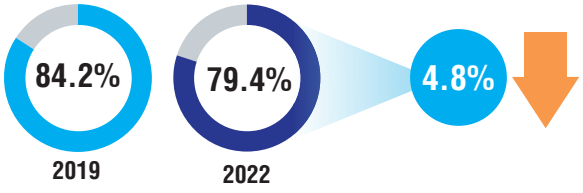
2019
Total: 31,217 veterans
New HIV diagnosis: 456

Diagnosed With HIV
(survived ≥ 90 days after diagnosis)

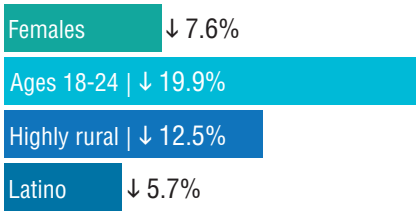
2022
Total: 31,776 veterans
New HIV diagnosis: 440



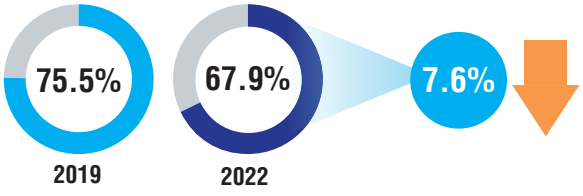
Receipt of HIV Care
(among total veterans with HIV)



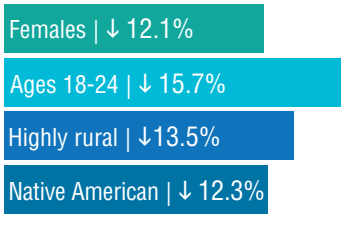
Largest decreases



Retention of HIV Care
(among total veterans with HIV)

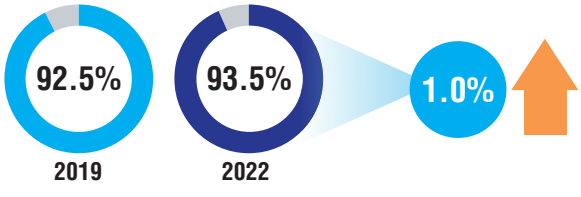


Largest decreases

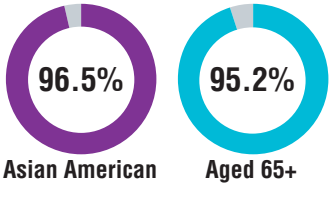


Veterans were considered to be "retained" if they had ≥ 2 CD4 or viral load test results spaced > 90 days apart but within a 365 day period.

Virologic Suppression
(among all veterans with HIV and viral load results)



Highest suppression



Despite declines, **the VHA's HIV Care Continuum performance exceeded national CDC benchmarks.** Retention and viral suppression declines were more pronounced among certain groups, including younger individuals, females, and rural residents. Racial and ethnic disparities persisted.

Acute Pain

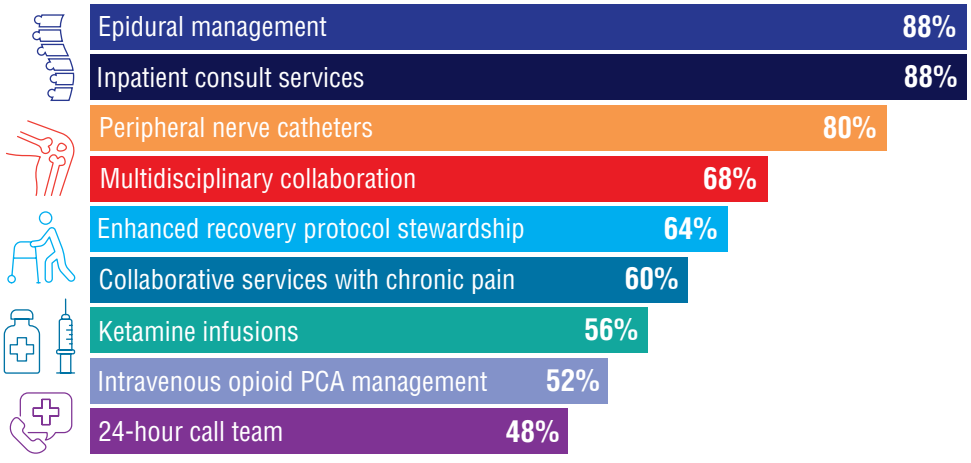
Veterans experience acute pain for a multitude of reasons, ranging from combat-related injuries to routine medical procedures, such as surgeries or dental extractions.[1-3] Opioid use disorder is a concern within the VA and in the acute pain setting, with one study finding that 98% of veterans with combat-related injuries from 2007-2011 were prescribed opioids.[1,4] Anesthesiologist-led acute pain services play a vital role in managing acute pain among veterans, reducing the incidence of opioid-related adverse effects, and facilitating more streamlined, coordinated care pathways that support timely recovery and discharge.[5,6]

VA dental providers have reported concerns about opioid-prescribing decisions for clinical scenarios with acute pain present in light of the opioid epidemic.[3] Guidelines released in 2022 for acute perioperative pain management emphasized acute pain services and thorough preoperative evaluation to help prevent negative opioid-related situations.[7]

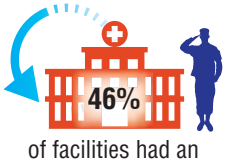
Acute Pain Services in the VHA[5]

VHA surgical facilities were surveyed about acute pain services. A **formal** acute pain service was defined as one that is **separate and distinct from chronic pain** and provides postoperative and inpatient pain medicine services. VHA facility complexity was determined by volume, risk, teaching, research, and intensive care unit capability.

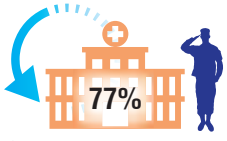
Top Services Offered at Formal Acute Pain Service Facilities



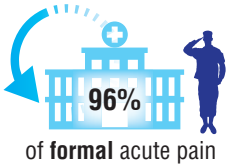
PCA, patient-controlled analgesia



of facilities had an acute pain service.



of **all** acute pain services were located at the most complex level facilities.



of **formal** acute pain programs were in the most complex level facilities.

In facilities **without acute pain services,** only **24%** **expressed interest** in starting one.

Inadequate staffing was the main barrier cited.

Multisociety guidelines have recommended access to a pain medicine specialist for acute perioperative pain, but most VHA facilities do not have acute pain management services, formal or informal.[4,5] Higher-level complexity programs are more likely to have services, but barriers to implementation in other facilities have not yet been identified.[4]

Opioid Prescribing Behavior for Acute Oral Pain[3]

Interviews were conducted with 90 dentists (80% general; 20% specialty) at 33 VA facilities between 2019 and 2020 to assess **factors influencing opioid decision-making for acute dental pain.** Interviews were structured around questions related to capability, opportunity, motivations, and prescribing behaviors to identify potential, future opioid-related interventions.

Motivations for Prescribing Opioids

Alleviating acute dental pain

Providing a "just in case" option for patients with limited access to follow-up care (eg, patients in rural areas with long drive times)

Common Clinical Scenarios That Involve Opioids

Postprocedural pain (eg, surgical extractions and root canals)

Walk-in or emergency situations in which patients request opioids

Decision-Making Tools for Prescribing Opioids

Clinical experience: Knowing a specific procedure or degree of trauma may require a certain level of management

VA electronic health record review for chronic opioid use, comorbidities, medication interactions, history of substance use

Assessment of pain intensity

Resources Supporting Safer Prescribing

VA Stratification Tool for Opioid Risk Mitigation (STORM)

State-level Prescription Drug Monitoring Programs (PDMPs)

Training on CDC and VA pain guidelines

Team-based care, including pharmacists and psychologists, if referrals are needed

Barriers to Managing Acute Pain

Uncertainty due to the subjective nature of pain

Varying skill level in screening for opioid misuse

Lack of training in addressing pain-related concerns

Minimal feedback or review of prescribing behaviors

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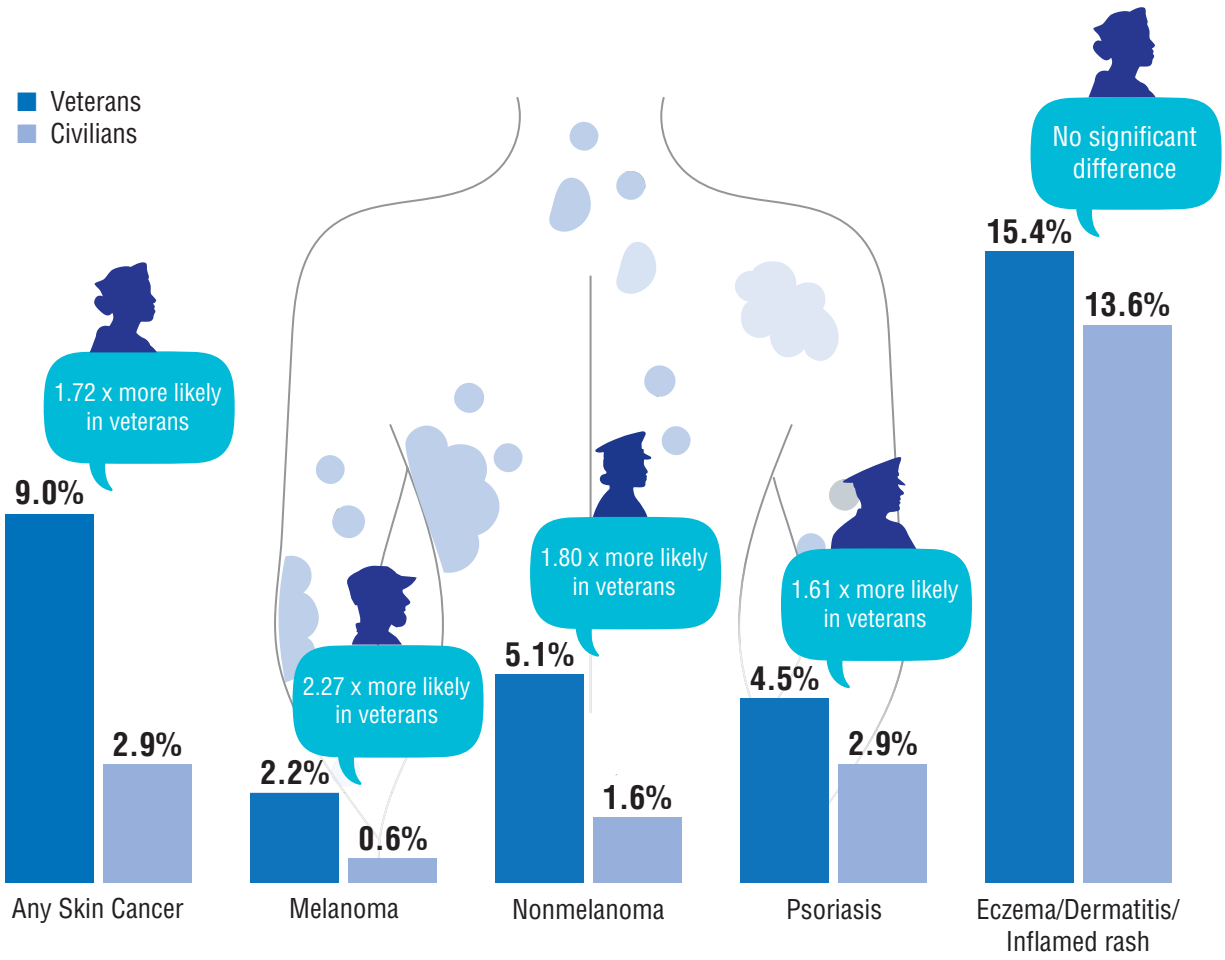
Dermatology

Service members experience unique risk factors for dermatologic conditions, such as increased sun exposure, crowded living conditions, environmental contaminants, skin injury, and extreme temperatures.[1,2] Veterans have an estimated 72% higher risk for any skin cancer compared to civilians, and are also at an increased risk of psoriasis, a chronic immune-mediated skin condition.[1,3] Dermatitis and eczema are also common conditions in military personnel, accounting for 17.0%-38.7% of skin diagnoses during military missions in Lebanon, Iraq, and Sudan.[2]

Prevalence of Dermatologic Conditions in Veterans[1]



Callouts above bars are based on odds ratios.

This study of approximately 7000 veterans and more than 50,000 civilians, analyzing data from 1999-2018, found that veterans had a higher prevalence and increased odds of skin cancers and psoriasis, but not eczema/dermatitis/ rashes compared with civilians. Veterans were 22% more likely to be outside during a workday and had a 44%-45% increased risk of severe sunburn after 30 minutes of exposure.

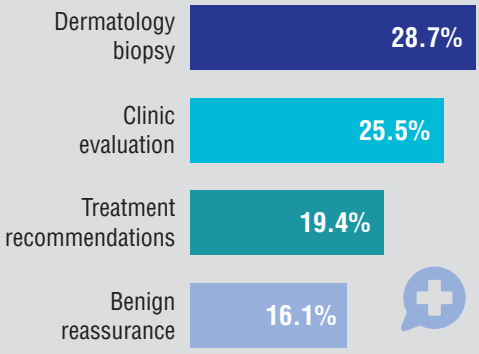
Teledermatology in the VA[4]

2017

2019

A recent retrospective study of nearly 4500 patients from VA sites across Tennessee and Kentucky looked at **trends in teledermatology use** from May 2017 through August 2019.

Referrals to In-Person Visits From Telehealth



Time to In-Person Visit

After first telehealth visit

VA site

58.0 days

Community site

73.5 days

Cost Savings Associated With Telehealth

In-person community care visit costs: **$1.076 million**

Travel costs for in-person VA visit: **$136,531.84**

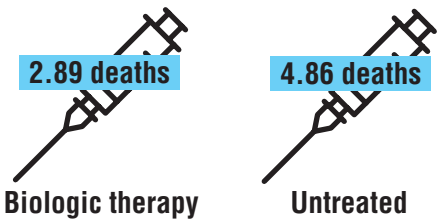
Veterans are reimbursed $0.415 per mile for in-person VA healthcare.

Treatment Mortality Trends in Patients with Psoriasis[3,5,6]

Plaque psoriasis may worsen during deployment due to stress, temperature extremes, insect bites, and skin injuries. **Poor control can interfere with wearing protective gear and may disqualify individuals from service.** A VA study of 4357 with psoriasis patients examined mortality rates by treatment type: biologics, nonbiologics, or no treatment.

10-Year All-Cause Mortality

per 100 patient-years



52%
longer time to death in those treated with biologic therapy compared with no treatment.

No differences were noted in 10-year all-cause mortality between untreated patients and those treated with nonbiologic therapy.

Patients on biologics had decreased 1-year all-cause mortality, although there was no difference in MACE. Previous data have suggested a potential cardiovascular benefit from anti-inflammatory therapy in patients with psoriasis.

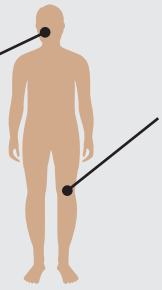
Socioeconomic Influence on Melanoma Severity[7]

A study of VHA patients who were diagnosed with melanoma in 2013-2019 explored the **effect of socioeconomic factors on melanoma thickness.** Neighborhood deprivation was measured by the area deprivation index (ADI), and ranking was determined by factors related to **income, educational attainment, employment, and housing quality.**

Tumor Characteristics

Most deprived neighborhoods

- ✔ More tumors diagnosed on the head or neck: **29.2%**
- ✔ More nodular melanoma **(10.9%)** and superficial spreading melanoma **(29.2%)**

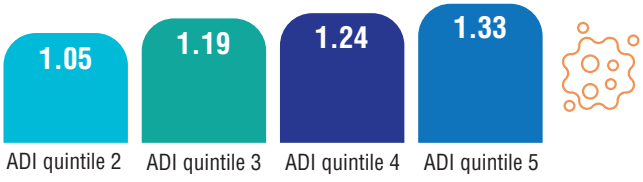


Least deprived neighborhoods

- ✔ More tumors diagnosed on the lower extremities: **11.1%**
- ✔ More acral lentiginous melanoma **(1.9%)** and lentigo maligna melanoma **(10.9%)**

Cutaneous Melanoma Thickness

Displayed as adjusted risk ratios; compared to quintile 1

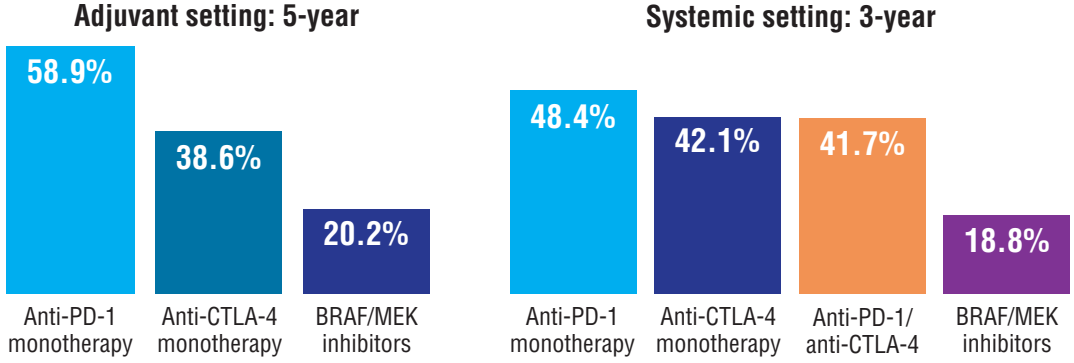


ADI is calculated in increments of 1, where 1 is the lowest and 100 the highest level of disadvantage compared to all US neighborhoods. ADI was grouped into 5 quintiles (quintile 1, ADI of 1-20; quintile 2, ADI of 21-40; quintile 3, ADI of 41-60; quintile 4, ADI of 61-80; and quintile 5, ADI of 81-100).

Treatment Trends for Melanoma at the VHA[8]

A study of nearly 700 patients with cutaneous melanoma diagnosed in the VHA looked at trends in **survival of patients taking immune checkpoint inhibitors** (anti-CTLA-4 and anti-PD-1) or **BRAF/MEK inhibitors.** Treatment classification was determined by stage at diagnosis and surgical resection. Resected stage III patients were classified to the adjuvant setting, while non-resected stage III or IV patients were classified to the systemic setting.

Overall Survival



Anti-CTLA-4, anti-cytotoxic T-lymphocyte associated protein 4; anti-PD-1, anti-programmed death protein 1; BRAF, B-raf proto-oncogene, serine/threonine kinase; MEK, methyl ethyl ketone

Veterans treated at the VHA for cutaneous melanoma with immune checkpoint or BRAF/MEK inhibitors were typically older (median age 68), White (96%), male (98%), and had serious comorbidities. Anti–PD-1 monotherapy yielded the highest 3- and 5-year survival rates in both adjuvant and systemic settings.

Infographics and visual storytelling for federal clinicians created by *Federal Practitioner* and the Association of VA Hematology/ Oncology (AVAHO).

In this issue:

Colorectal Cancer

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Kidney Cancer

Blood Cancer

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Brain Cancer

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