

AHA RURAL HEALTH CARE CONFERENCE

# Trenches and Bridges

Addressing the Rural Veteran Healthcare Crisis



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# “Invisible Wound: The Story of Matthew Fast”

[Watch the full video here.](#)



# 3 Areas of the Rural Veteran Crisis

## PROBLEM

Large, underserved Warrior population living in rural communities that are sick

## CAUSE

Millions of Veterans and their families have complicated, unique health needs as a result of their service to our country

## SOLUTIONS

Address the health needs of a large vulnerable population through:

- Screening for military service
- Veteran-informed education
- Application of data & decision science

## TODAY'S DISCUSSION

# Objectives

At the end of this presentation, participants will be able to:

- Recognize the connection between military service and its impact on the health of one of the largest, vulnerable rural populations.
- Identify the bridges that healthcare leaders, providers, support services personnel, and the community at large can build to effectuate change in how the Warrior Community experiences care and our collective power to change the quality of their lives.
- Implement a population health strategy aimed to reduce healthcare disparities and the role of appropriate collaboration, training, and education



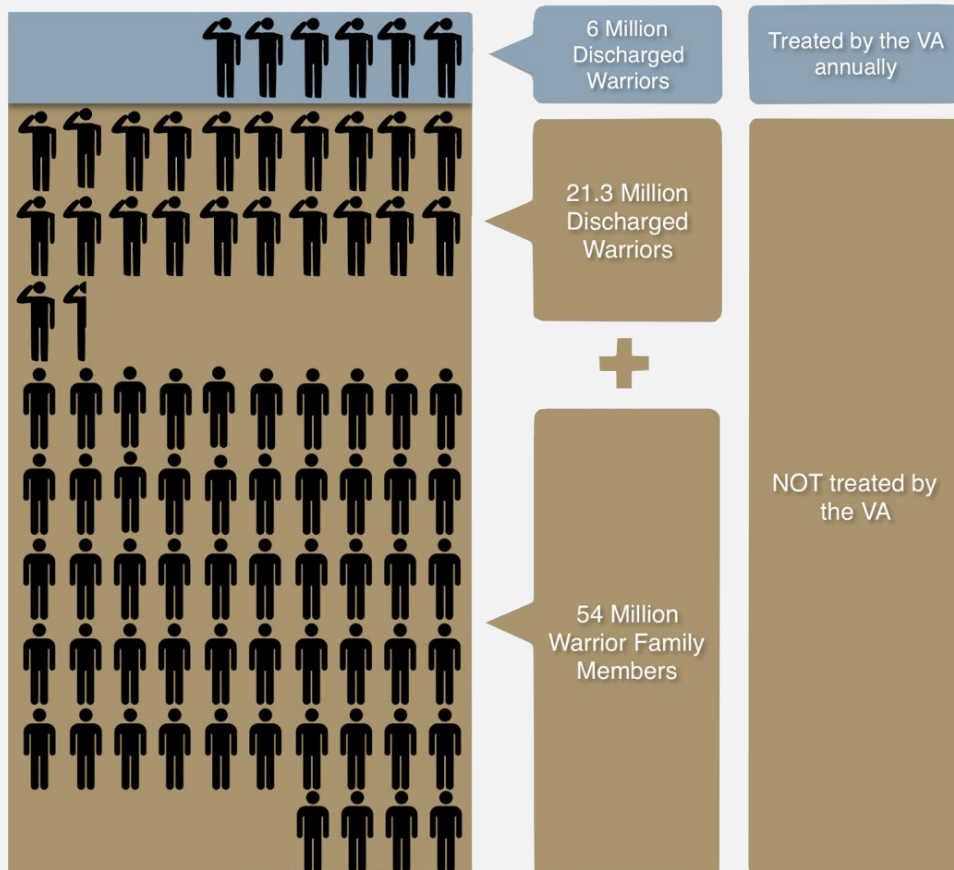
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# Veteran Population **General**

The Commercial Healthcare System treats the majority of Veterans in the US.

- 70% + Veterans
- 100% Families

Commercial Healthcare Systems are **unaware, untrained and unprepared** to provide proper care for Veterans' unique healthcare needs.

## Impact:

- Increased Cost
- Lost Revenue
- Suboptimum Outcomes

# Veteran Population **Rural**

**25%\***

of the U.S. Veteran population—4.7 million Americans—live in rural and highly rural areas.”

\*Number is significantly higher when including the broader Warrior Community (active-duty military, Reservists, National Guard members, and their families).

- A veteran's rurality is an indicator of the layers of social determinants that make this group **a uniquely vulnerable population.**
- Instances of medically complex needs span generations of Veterans.



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# “Have you served?”

The opportunity to radically improve health outcomes for millions of patients is largely untapped. Taking advantage of that opportunity begins with one simple question to patients: “Have you served?”

## General Questions

- Would it be ok if I talked with you about your military experience?
- When and where did you/do you serve and in what branch?
- What type of work did you do or currently do while in the service?
- Did you have any illnesses or injuries while in the service?

**If Veterans answer “Yes” to any of the following questions, ask:**

**“Can you tell me more about that?”**

- Did you ever become ill while you were in the service?
- Were you or a buddy wounded, injured, or hospitalized?
- Did you have a head injury with loss of consciousness, loss of memory, “seeing stars” or being temporarily disoriented?
- Did you see combat, enemy fire, or casualties?
- Were you a prisoner of war?

## Compensation & Benefits

- Do you have a service-connected condition?
- Would you like assistance in filing for compensation for injuries or illnesses related to your service?

**VA Information: 1-800-827-1000 or 844-MyVA311 (698-2311)**

## Living Situation

- Would it be ok to talk about your living situation?
- Where do you live and who do you live with? Is your housing safe?
- Are you in any danger of losing your housing?
- Do you need assistance in caring for yourself and/or dependents?

## Unwanted Sexual Experiences in the Military

May I ask you about stressful experiences that men and women can have during military service?

1. Did you have any unwanted sexual experiences in the military?  
For example, threatening or repeated sexual attention, comments or touching?
2. Did you have any sexual contact against your will or when unable to say no, such as being forced, or when asleep or intoxicated?

**If Yes:** I am sorry; thank you for sharing that. VA refers to this as 'military sexual trauma' or 'MST' and offers free MST-related care.

**If No:** Okay, thank you. I ask all Veterans because VA offers free care related to these experiences.



# The Health Impact of Military Service



Common Service-Related Exposure Concerns		
<b>Military Environmental Exposures (Any Era)</b>		
Burn Pit Smoke	Hexavalent Chromium	
Cold Injuries	Mustard Gas	
Contaminated Water (benzene, trichloroethylene, vinyl chloride)	Nerve Agents	
Endemic Diseases	Pesticides	
Heat Stroke/Exhaustion	Radiation (Ionizing & Non-Ionizing)	
	Sand, Dust, Smoke, and Particulates	
	TCDD, herbicides, other dioxins	
<b>Occupational Hazards:</b> Asbestos, Industrial Solvents, Lead, Radiation Fuels, PCBs, Noise/Vibration, Chemical Agent Resistant Coating (CARC)		
<b>Gulf War, Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) &amp; Operation New Dawn (OND)</b>		
Animal Bites/Rabies	Malaria Prevention: Mefloquine – Lariam	
Blunt Trauma	Mental Health Issues	
Burn Injuries (Blast Injuries)	Multi-Drug Resistant Acinetobacter	
Chemical or Biological Agents	Oil Well Fires	
Chemical Munitions Demolition	Reproductive Health Issues	
Combined Penetrating Injuries	Spinal Cord Injury	
Depleted Uranium (DU)	Traumatic Amputation	
Dermatologic Issues	Traumatic Brain Injury	
Embedded Fragments (shrapnel)	Vision Loss	
<b>Immunizations:</b> Anthrax, Botulinum Toxoid, Smallpox, Yellow Fever, Typhoid, Cholera, Hepatitis B, Meningitis, Whooping Cough, Polio, Tetanus		
<b>Infectious Diseases:</b> Malaria, Brucellosis, Campylobacter jejuni, Coxiella burnetii, Mycobacterium tuberculosis, nontyphoid Salmonella, Shigella, visceral Leishmaniasis, West Nile Virus		
<b>Vietnam, Korean DMZ &amp; Thailand</b>		
Agent Orange Exposure	Cold Injuries	Hepatitis C
<b>Cold War</b>		
Chemical Warfare Agent Experiments	Nuclear Weapons Testing or Cleanup	
<b>WWII &amp; Korean War</b>		
Chemical Warfare Agent Experiments	Nuclear Weapons Testing or Cleanup	
Cold Injuries	Biological Warfare Agents	

<http://www.va.gov/oa/archives/Military-Health-History-Caid-for-print.pdf>

# Rural Veteran Health Crisis

- **Mental and behavioral health**

- Suicidality
- PTSD
- TBI
- Moral injury

- **Substance use disorder**

- Alcohol
- Opioid use

- **Chronic pain**



# Rural Veteran Health Crisis

## Major chronic health condition categories

- Diabetes
- Hypertension
- Pulmonary
- Cardiovascular
- GI
  
- **Other**
- Toxic exposures
- Transition – active service member to Veteran
- Bad paper discharge





# Gulf War Illness

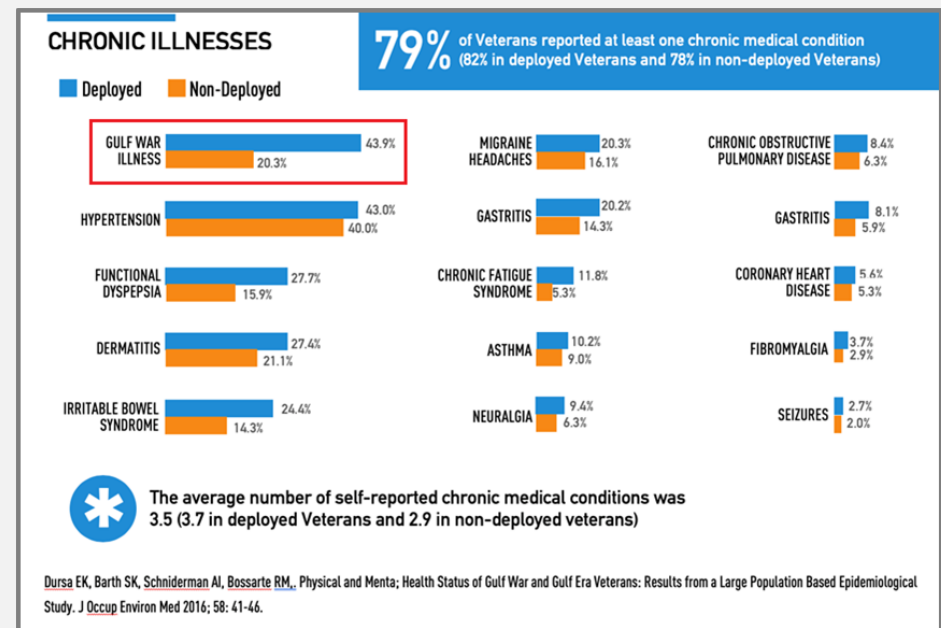
## A Sample Gap

**Gulf War Illness:** Undiagnosed illnesses with symptoms, rarely treated together as a chronic set of connected conditions, that may include but are not limited to:

- abnormal weight loss
- fatigue
- cardiovascular disease
- muscle and joint pain
- headache
- menstrual disorders
- Neurological/psychological problems
- skin conditions
- respiratory disorders
- sleep disturbances

# 70+%

of Veterans receive health care from local practitioners and hospitals which are **unaware, untrained and unable to care** for our Veterans' unique occupational and environmental exposures. .





# Top Injuries, Wounds, Illnesses

**1 in 10  
Veterans**

may experience any  
one or combination  
of the following:

- Post-Traumatic Stress Disorder (PTSD)
- Psychiatric Illness after Traumatic Brain Injury (TBI)
- Iraq and Afghanistan War Lung Injury (IAW-LI)
- Dismounted Complex Blast Injuries (DCBI)
- Post-Traumatic Osteoarthritis (PTOA)
- Chronic Multi-symptom Illness (CMI)
- Genitourinary Trauma
- Sleep Disorders
- Others (i.e., Diabetes, Cardiovascular Disease, Cancer, Pulmonary Arterial Hypertension, COPD, Alzheimer's, Stroke, Kidney disease, Immune Disorders, etc.)

# Post-Traumatic Stress Disorder

- Detachment and estrangement from loved ones
- Insomnia, fatigue, irritability, poor concentration
- Hypervigilance and exaggerated startle response
- Intrusion (memories of the trauma, “flashbacks”)
- Avoidance (avoiding situations that are reminders)
- Hyperarousal (feeling constantly threatened, suddenly irritable or explosive)
- Persistent and distorted blame of self or others; and, persistent negative emotional state \*
- reckless or destructive behavior \*

\*DSM 5 revision



# Rates of Psychiatric Illness after Traumatic Brain Injury (TBI)

**31%**

12 months after  
the event

**22%**

Suffered from  
disorders they  
never had before

**10x**

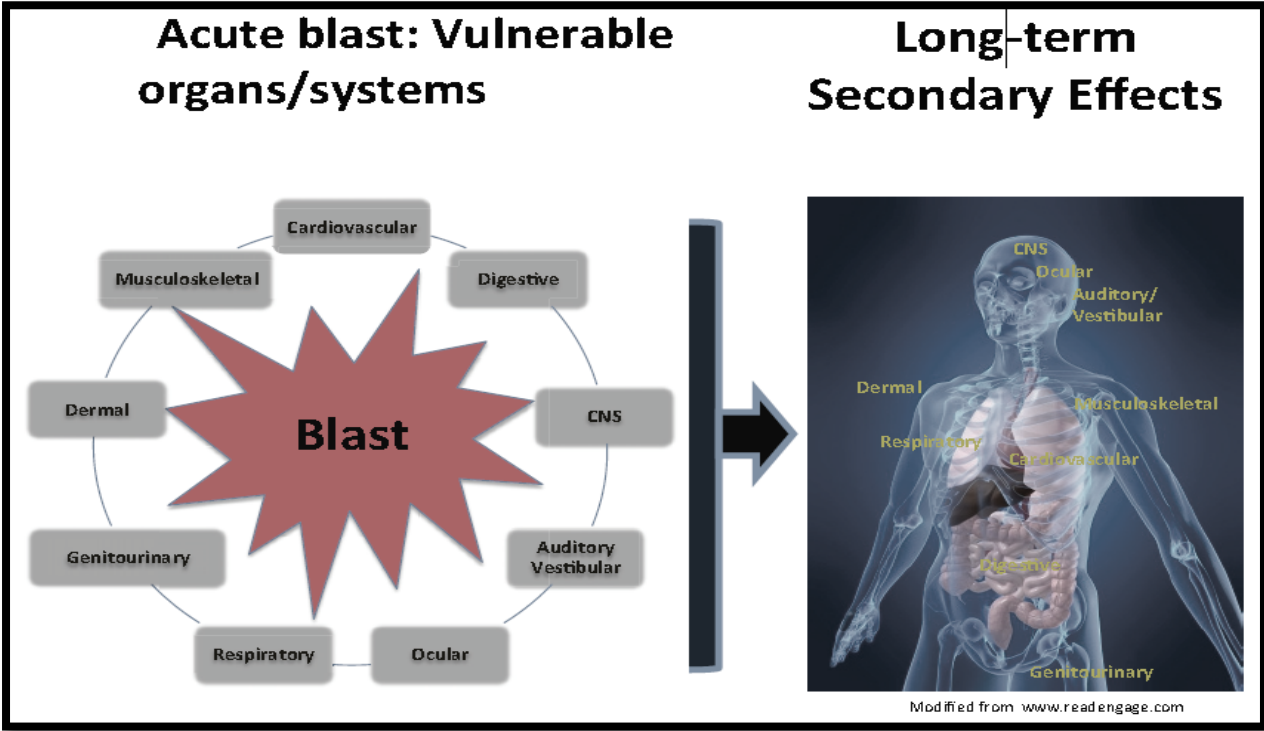
Risk of progressive  
dementia, Alzheimer's

- PTSD, anxiety disorders, depression
- Progressive rates of CVD, CA, DM have also been noted

Bryant RA, O'Donnell ML, Creamer M, McFarlane AC, Clark CR, Silove D. The psychiatric sequelae of traumatic injury. *Am J Psychiatry*. 2010 Mar; 167(3): 312-330.

Mayeux R, Ottman R, Maestre G, et al. Synergistic effects of traumatic head injury and apolipoprotein-epsilon 4 in patients with Alzheimer's disease. *Neurology*. 1995; 45 (3 Pt 1): 555-557.

# Long-Term Effects of Blast Exposures



SOURCE: Created by Linda Noble-Haeusslein for the Committee on Gulf War and Health: Long-Term Effects of Blast Exposures; figure of the human body adapted from [www.readengage.com](http://www.readengage.com)



# Dismounted Complex Blast Injuries (DCBI)

The conflict in Afghanistan led to **the highest proportion of genitourinary injuries** seen in any combat period.

According to the U.S. Department of Defense, rates of genitourinary trauma have risen dramatically.

- The most recent U.S. Joint Theater Trauma System database shows:

**12.7%**

of all **battlefield injuries** are **genitourinary**

**350%**

**increase** from the prior baseline seen in earlier 20th-century conflicts

A unique challenge to the present-day military operations is the use of improvised explosive devices (IEDs) by the enemy.

- The destructive sequela of IEDs has led the U.S. Army Task Force to designate IED-related pelvic, abdominal, lower extremity, and urogenital injuries as “**dismounted complex blast injuries**” (DCBI), a term that denotes their **challenging and multifocal nature**.

# Iraq and Afghanistan War Lung Injury (IAW-LI)



- Military personnel and veterans deployed to Iraq and Afghanistan may suffer from new diseases (IAW-LI)
- **Key causal agents:**
  - Dust from the sand
  - Smoke from the burn pits
  - Aerosolized metals and chemicals from explosions
  - Improvised Explosive Devices
  - Pressure from bomb blast or shock waves to the lung
  - Outdoor aeroallergens such as date pollen, and; indoor aeroallergens such as mold aspergillus
- Repetitive Exposures / Multiple Deployments

*Szema, et. al., Occupational Lung Diseases among Soldiers Deployed to Iraq and Afghanistan, Occupational Medicine & Health Affairs*

# Post Traumatic Osteoarthritis (PTOA)

- **Osteoarthritis causes substantial disability** among those serving in the military, including young service members with acute traumatic injury.
- **Rates** of osteoarthritis are **higher and affected ages are lower** in active military service members and veterans than in civilian populations.
- Recent conflicts have resulted in a high rate of extremity injuries, as many as 71% of which have been associated with intra-articular injury.



<http://lermagazine.com/article/post-traumatic-oa-unique-implications-for-the-military>

# Chronic Multi-Symptom Illness (CMI)

The Institute of Medicine (IOM) defines CMI as the presence of a spectrum of chronic symptoms in **at least 2 of 6 categories experienced for at least 6 months:**

- Fatigue
- Mood and Cognition
- Musculoskeletal
- Gastrointestinal
- Respiratory
- Neurologic

Institute of Medicine, Gulf War and Health, Treatment of Chronic Multisymptom Illness  
Volume 9, January 2013



# Chronic Multi-Symptom Illness (CMI)

It is estimated that of the 700,000 service members involved in the 1991 Gulf War between:

- **175,000 - 250,000 have CMI (25% - 36%)**
  - suffer from an array of long-term medically unexplained symptoms which is serious health condition that imposes a tremendous burden of suffering.
  - CMI does not have a defined set of symptoms and its multiple symptoms can vary from person to person.
- **Veterans with CMI may experience**
  - fatigue and joint and muscle pain
  - cognitive symptoms, such as memory difficulties
  - symptoms often associated with depression and anxiety

Institute of Medicine, Gulf War  
and Health, Treatment of  
Chronic Multisymptom Illness  
Volume 9, January 2013

# Military Sexual Trauma

Military Sexual Trauma (MST) is sexual assault and/or harassment in a US military setting. Either the victim or the perpetrator can be a member of the military. Often, both parties are service members. MST can occur stateside or abroad.

<https://phsj.org/womens-health/>



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# Moral Injury

## Moral Compass

- Inner sense that distinguishes right from wrong (conscious, ethics, belief system)

## Religiosity – refers to the numerous aspects of religious activity

- Knowing (cognition in the mind)
- Feeling (affect to the spirit)
- Doing (behavior of the body)

## Spirituality – process of transformation

- Separate from religious institutions
- Internal experience of the individual
- Spiritual but not religious



(Wong, 2008; Snyder, 2007)

# Injury to Death Ratio

9.7 to 1

“9.7 wounded service members for every service member who dies

(as compared to 2.2 to 1 for all U.S. wars 1775-1991)”

- Average number of medical conditions to all veterans, not just those with combat experience, has ranged from 8 to 9, increasing to as many as 14 conditions per disability applicant during the past year (Marchione, 2012)
  - World War II recipients averaged 2 conditions per veteran
  - Vietnam recipients averaged about 4 conditions per veteran
- Data implies our recent veterans suffer from far more disabling psychiatric and non-psychiatric medical problems than have veterans of previous conflicts.

<http://mcnallylabcom.ipage.com/beta/wp-content/uploads/mcnally-frueh-2013-jad-disability-rates1.pdf>

# Common Health Issues for Female Veterans

- Military Sexual Trauma
- Mental Health/Substance Misuse
- Cardiovascular
- Musculoskeletal Conditions
- Reproductive Health/ Contraceptive Counseling
- Menstrual regulation / irregularities / abnormal bleeding
- Cervical and breast cancer screening
- Increased risk for breast cancer
- Musculoskeletal disorders
- Pelvic pain and pelvic organ prolapse





# Post 9/11 Female Veterans

- More likely to have seen or engaged in active combat, to have been engaged in hostile fire, or to have seen or known someone killed by enemy fire
- Increasingly serve in traditional male roles, placing them at increased risk of experiencing hostile enemy fire (Meyers, 2009)
- Department of Defense has opened all military roles to females (Bradner, 2015)
- **Female veterans have much higher rates**
  - interpersonal trauma
  - military sexual trauma (MST)
  - intimate partner violence (IPV)
- **Co-occurring morbidities**, or multimorbidity, experienced by senior-aged women Veterans
  - A specific combinations of conditions are likely to affect the treatment, management and resources required

Zinzow et al., 2007; U.S. Department of Veterans Affairs, 2011b Hamilton et al., 2011; Washington et al., 2010

# Female Veteran Health Facts

42%

Higher rate of having **mental illness** in the past year

Compared to about 22% of civilian females

29%

Higher rate of **functional impairment**

16%

Higher rate of being diagnosed with **depression**

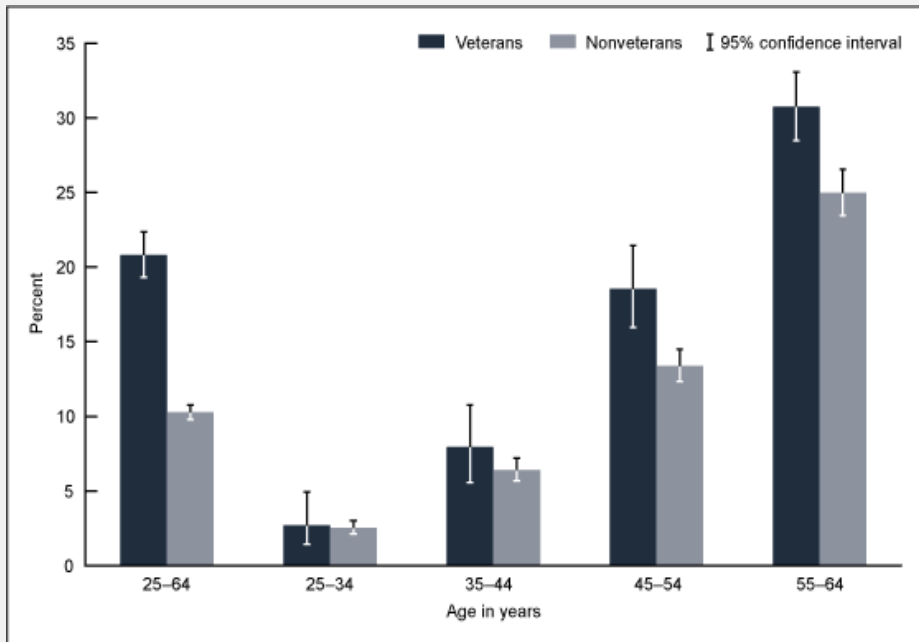
19%

Higher rate of COPD

16%

Higher rate of **arthritis, cancer, and cardiovascular disease**

# Male Veteran Health Facts



## Two or More Chronic Conditions among men aged 25-64 by age group and veteran status; United States, 2007-2010

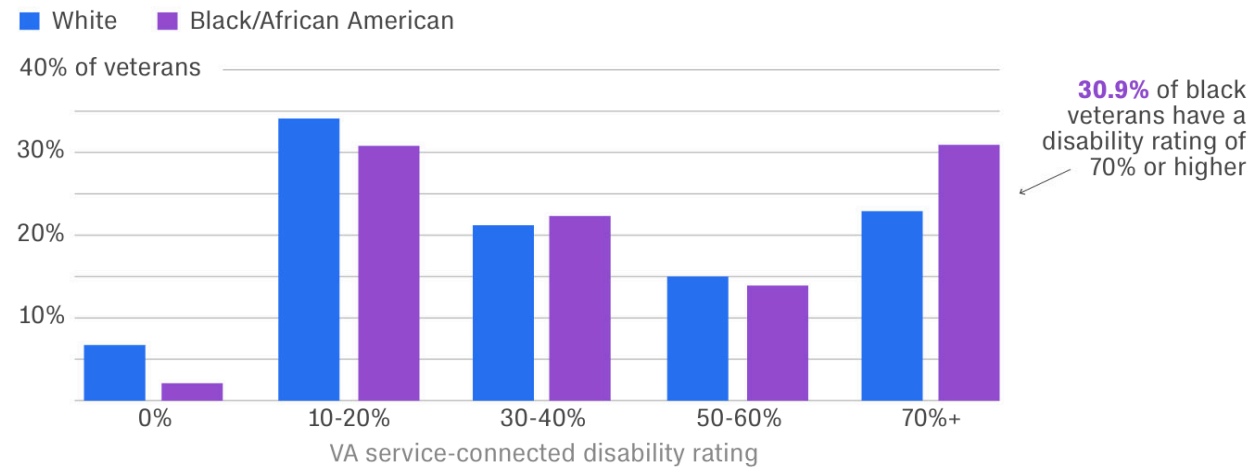
Conditions include diabetes, hypertension, heart disease, cancer (excluding non-melanoma skin cancer), stroke, chronic bronchitis, emphysema, asthma, and kidney disease.

SOURCE: CDC/NCHS, National Health Interview Survey, 2007-2010.

# Black Veteran Health Facts

## Black veterans have more severe injuries from their service

Veterans are assigned a "disability rating" to determine how much a service-related injury affects their earning ability and the benefit they should therefore receive. The higher the rating, the more severe a veteran's disability. Black veterans are more likely to sustain severe injuries during their service—45% of injured black veterans have a disability rating of at least 50%, compared with 38% for white veterans.



Source: Office of Veterans Affairs  
Graphic: Will Mullery, CNN

# Pathway to Health Equity

1. Understanding the value of establishing a **trusting relationship** between Veterans, their physicians, allied healthcare team members and their communities
2. Veterans are very proud individuals who will **tell their story** if given the opportunity.
3. Information critical to **accurate medical history** won't be missed
4. The goal is to provide **equitable, timely and quality care**

Unique Patient **Screening**

Unique Patient **Admission**

**Monitor clinic visits**/admission rates associated with those patients identified as Veterans

Sample Data Capture 1:  
**Mental/Behavioral Health**

Sample Data Capture 2:  
**Substance Use Disorders**

Sample Data Capture 3:  
**Chronic Health Conditions**



# “Healing Invisible Wounds”

[Watch the full video here.](#)





# Nexxus Letter



Mid-Atlantic Permanente Medical group, P.C.  
Kaiser Foundation Health Plan of the Mid-Atlantic States, Inc.  
Rockville, MD 20852

01/12/23

To Whom It May Concern:

I am Dr. FARZANEH LOLACHI SABI MD. I am Board-certified to practice in Obstetrics, Gynecology.

Patient Jane Doe is a patient under my care since **\*\*\***(enter a date). Their diagnosis is **\*\*\***.

I have personally reviewed their medical history available in our electronic medical record and have also reviewed their prior military history. As part of their clinical presentation, their symptoms, labs and imaging studies of note include:

**\*\*\***

Patient Jane Doe has no other known risk factors that may have precipitated their current condition. In my professional experience and in the medical literature these symptoms are likely to be related to their military experience.

(**\*\*\*PLEASE ADD A FEW SENTENCES PROVIDING A SUPPORTING *RATIONALE* FOR THAT OPINION.**)

It is my medical opinion that it is more likely than not that Jane Doe's **\*\*\***(condition) are at least as likely as not a result of her military experience.

Thank you,

*FARZANEH LOLACHI SABI MD*



# Questions?