

Health Conditions of a 1990-1991 Gulf War Era Veteran Cohort: The Gulf War Era Cohort and Biorepository



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Introduction

- In the 1990-1991 Gulf War, 700,000 US Armed Forces were deployed to Southwest Asia and elsewhere.
- Deployed Veterans report increased symptomatology, but equivalent or lower disease-related mortality compared to non-deployed Gulf War Era (GWE) Veterans.
- Questions remain about the impact of possible war-time exposures on the development of chronic disease in this Veteran population.

Objectives

- To facilitate ongoing research in this population, we created a longitudinal research cohort and biorepository
- We describe pilot data from the first 1267 participants in the Gulf War Era Cohort and Biorepository (GWECB) & their diagnoses/symptoms

Eligibility

- Served in the Uniformed Services during August 1990 – July 1991
- Deployed or non-deployed
- Self-defined current VHA user or non-user in past 12 months
- Any branch of service

Methods

- Random sample of 90,000 Veterans was generated, stratified by the following:
 - Deployment in theater (50%) - Active Duty (50%)
 - Army (50%) - Officer grade (10%)
 - Race (20% non-white) - Sex (20% female)
- A pilot study with mailings to 10,000 of the random sample was performed.
- A mailed survey included questions about:
 - Clinical conditions - Substance use - Overall health status
 - Mental health screeners - Current symptoms - Health behaviors
- After survey and study documents were received, a blood sample was collected from enrolled Veterans.
- DNA was extracted from sample and stored for future research use.
- Consent was obtained to link with medical records.

Table 1. Description of GWECB Participants

Characteristic N (%)	All N = 1267	VHA Non-Users N = 677	VHA Users N = 577
Age (yrs, median)	52.8	52.4	53.6
Male	958 (75.6%)	513 (75.9%)	436 (75.6%)
Female	286 (22.6%)	158 (23.3%)	126 (21.8%)
White	920 (72.6%)	550 (81.4%)	361 (62.6%)
African-American	266 (21.0%)	93 (13.7%)	172 (29.8%)
American Indian	55 (4.3%)	16 (2.4%)	38 (6.6%)
Asian/Pacific Islander	17 (1.3%)	10 (1.5%)	7 (1.2%)
Other	42 (3.3%)	18 (2.7%)	24 (4.2%)
Deployed to the Gulf	892 (70.4%)	471 (69.6%)	413 (71.6%)
Deployed elsewhere	94 (7.4%)	47 (6.9%)	46 (8.0%)
Not deployed	276 (21.8%)	152 (22.5%)	121 (21.0%)
Some college or greater	1102 (87.0%)	599 (88.5%)	495 (85.8%)
Working full-time	736 (58.1%)	460 (67.9%)	271 (47.0%)
Working part-time	94 (7.4%)	54 (8.0%)	40 (6.9%)
Disabled	175 (13.8%)	31 (4.6%)	142 (24.6%)

Self-Reported Diagnoses by Organ System

VA Non-Users

Mental Health 29.4%

Pulmonary 4.0%

Circulatory 62.6 %

Digestive System 45.1%

Musculoskeletal 42.8%

Nervous System 33.8%

Dermatologic 16.5%



VA-Users

Mental Health 57.2%

Pulmonary 9.2%

Circulatory 78.3%

Digestive System 59.1%

Musculoskeletal 69.5%

Nervous System 60.5%

Dermatologic 24.3%

Table 2. Top 5 most common current symptoms among Gulf War 1 Era Veterans

Symptom N (%)	Overall N = 1267	VHA User N = 567	VHA Non-User N = 684	Rate Difference User – Non-User
Stiffness /Pain in joints	1043 (82.3%)	511 (88.6%)	520 (76.8%)	11.8%
Sleep problems	966 (76.2%)	481 (83.4%)	476 (70.3%)	13.1%
Fatigue	779 (61.5%)	403 (69.8%)	369 (54.5%)	15.3%
Pain in muscles	765 (60.0%)	425 (73.7%)	333 (49.2%)	24.5%
Numbness/tingling in extremities	728 (57.5%)	401 (69.5%)	319 (47.1%)	22.4%

Conclusions

- Prevalence of all health conditions were higher among GWE Veterans who were VHA-users compared to non-users.
- VHA-users report greater rates of the top 5 current symptoms compared to non-users.
- The GWECB is positioned to support the discovery of new treatments and improve healthcare approaches for the 1990-1991 GWE Veteran population.



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