



## ABSTRACT

Research has suggested that women veterans (WV) have a higher risk for mental and physical health issues, and trauma. Health care utilization among racial/ethnic minority WV and WV with low socioeconomic status (SES) is poorly understood. The present study aimed to examine the relations among gender, SES, minority status, and health care utilization. A mixed methods approach was used. Results from the binary logistic and multiple regression analyses indicated that being a woman increased the odds of utilizing all health care services. Lower SES decreased the odds of utilizing dental care and outpatient care. Lower SES increased odds of using the emergency room, mental health care, VA health care, and hospitalization. Identifying as a minority increased the odds of utilizing the emergency room and decreased the odds of utilizing dental care. Results from the thematic analysis show that barriers to care are prevalent in both pre and post military settings, stigma is a major barrier to care, and certain factors lead to higher satisfaction of services.

## INTRODUCTION

### Significance of the Study

- WV have higher rates of PTSD and MDD compared to men veterans (Haskell et al., 2011).
- These mental health diagnoses have been linked to deleterious reproductive and physical health outcomes (Cohen et al., 2012).
- WV are high users of health services but still experience barriers to care, particularly at the VA (Elbogen et al., 2013).
- Few studies have addressed gender differences in both VA and non-VA health care utilization and the sociodemographic factors that could influence the type of health care services used.

### Purpose of the Study

- To clarify how gender and sociodemographic factors affect overall health care utilization among WV.
- **Research Questions**
- How does gender affect health care utilization among veterans?
- How does SES affect health care utilization among veterans?
- How does minority status affect health care utilization among veterans?

### Hypotheses

- WV will utilize both physical and mental health care services more than men veterans but will utilize VA health care less than men veterans.
- Lower SES will be associated with increased VA utilization and decreased non-VA utilization.
- Identifying as a minority will increase the likelihood of utilizing the VA but decrease the likelihood of non-VA utilization.

## LITERATURE REVIEW

- WV use health care more, as greater symptom severity predicts greater health care utilization. Many WV experience more physical and mental health issues than veteran men and non-veteran women (Elbogen et al., 2013).
- Studies suggest WV use VA care less and experience more barriers to care, yet VA care has doubled among WV from post 9/11 service era (Haskell et al., 2011).
- The VA serves as a safety net for many low SES and disabled veterans (Tsai et al., 2015).
- Few studies have researched SES and health care usage among WV. Low SES veterans may face barriers to mental health care (Sripada et al., 2015).
- Minority WV underutilize services when compared to white WV, white men veterans, and minority men veterans (Davis et al., 2014).
- **Theoretical Framework:** Anderson's Behavioral Model of Health Service Use posits that there are predisposing factors (gender, SES) and enabling factors such as accessibility.

## QUANTITATIVE

### Research Design and Data Collection Procedures

- A secondary data analysis of the original 2010 National Survey of Veterans (NSV) conducted by the VA.
- Cross-sectional mail surveys of veterans across the United States.

### Sample and Sampling Method

- An address-based sampling frame that stratified by gender and age to increase the probability of women and young veterans responding.
- A subsample of the original NSV that excluded veterans over age 65 was used with a total sample size of 4,442 veterans (women = 473).

### Measures

#### Independent Variables: Gender, SES, and Minority Status

- Gender: Self-report question that asked veterans to identify if they were male or female.
- SES: income level measured through 15 items, education level measured through 9 items, supplemental security income (Y/N), and service-connected disability (Y/N).
- Minority status: a binary variable indicating whether veterans identified as a minority (non-white) or non-minority (white).

#### Dependent Variable: Health Care Utilization

- Three areas of health care use were assessed through 8 items:
- Health care use: "last 6 months: used dental care", "last 6 months: used outpatient care", "last 6 months: used prescription medication", "last 6 months: visited the emergency room", "last 6 months: was hospitalized", and "total number of health care services used"
- Mental health care use: "last 6 months: had outpatient mental health/substance abuse counseling"
- VA use: "used VA health care"

## QUANTITATIVE RESULTS

### Binary Logistic Regression Results

- Being a woman significantly predicted utilizing dental care, the emergency room, outpatient care, mental health care, prescription medication, and the VA.
- SES had mixed results. Lower SES decreased the odds of utilizing dental care and outpatient care. Conversely, lower SES increased the odds of utilizing the emergency room, mental health care, VA care, and hospitalization.
- Identifying as a minority increased the odds of utilizing the emergency room and decreased the odds of utilizing dental care

### Multiple Linear Regression Results

- Being a woman increased the odds of the total number of health services used.
- Higher SES significantly and positively predicted the number of health care services used.
- Having a service-connected disability and receiving supplemental security income increased the odds of the total number of health care services used.

Results of Multiple Regression Analyses Predicting the Total Number of Health Services Utilized

Variable	ANOVA	R <sup>2</sup>	B	SE	Beta	t	p
	F(5, 3055) =	.060					
	39.057, p < .001						
Constant			.739	.130		5.664	.001
Gender			.553	.073	.139	7.569	.001
Income level			.018	.006	.055	2.890	.004
Education level			.045	.013	.067	3.514	.001
Supplemental Security Income			.377	.104	.064	3.621	.001
Service-connected disability			.537	.054	.177	10.017	.001
Minority Status			-.067	.069	-.017	-.971	.332
Age			.021	.002	.186	10.218	.001

## METHODOLOGY

## QUALITATIVE

### Research Design and Data Collection Procedures

- 45 minutes, semi-structured interviews over the span of 3 months from Dec 2021-Feb 2022.
- WV were recruited through flyers, emails, and existing group meetings at the Veterans Resource Center (VRC) at CSUF.
- Participants were asked to share their experiences with VA and non-VA health care and reasons for not using health care services.
- The Institutional Review Board of CSUF approved of this study.

### Sample and Sampling Method

- A nonrandom convenience sample of 6 WV was gathered through the VRC at CSUF.
- The sample consisted of WV students with a mean age of 29.33. The sample was diverse, with WV identifying as Asian, white, and Hispanic. Majority of WV served in the Army and had a service-connected disability. Majority of WV had income below \$45,000.
- All interviews were recorded and transcribed. Coding was conducted through NVivo, a qualitative analysis software. A thematic analysis with an inductive, grounded approach was used to identify themes from the codes.
- **Measures**
- An interview guide with 15 open-ended questions assessing four health care areas:
- Active-duty health care: "While you were active duty, did you ever use medical care?"
- VA health care: "Do you use the VA for your health care needs? Why or why not?"
- Overall health care usage: "as a veteran, did you use any health care services? What was that experience like for you?"
- Barriers to care: "Is there anything that you have experienced in your life that you find makes it hard for you to seek medical or mental health care?"

## QUANTITATIVE RESULTS

Summary of the Binary Logistic Regression Results Indicating the Significant Predictors of

Health Care Utilization Variables

Variable	B	SE	p	OR
<b>Dental Care Use</b>				
Gender	.384	.130	.003	1.469
Minority status	-.425	.119	.001	.654
Income level	.167	.012	.003	1.182
Highest education completed	.196	.023	.001	1.217
<b>Emergency Room Use</b>				
Gender	.335	.147	.023	1.398
Minority status	.362	.135	.007	1.437
Income level	-.064	.013	.001	.938
Supplemental security income	.432	.192	.024	1.540
Service-connected disability	.450	.111	.001	1.569
<b>Outpatient Care Use</b>				
Gender	.809	.156	.001	2.245
Income level	.027	.012	.018	1.028
Highest education completed	.049	.024	.047	1.050
Supplemental security income	.496	.219	.024	1.641
Service-connected disability	.881	.117	.001	2.413
<b>Prescription Medication Use</b>				
Supplemental security income	.627	.259	.015	1.872
Service-connected disability	1.013	.129	.001	2.755
Gender	1.079	.166	.001	2.941
<b>Hospitalization</b>				
Income level	-.050	.016	.002	.951
Service-connected disability	.456	.137	.001	1.578
<b>Mental Health Care</b>				
Income level	-.132	.015	.001	.877
Supplemental security income	.529	.212	.012	1.697
Service-connected disability	1.363	.120	.001	3.909
Gender	.424	.167	.011	1.528
<b>VA Health Care Use</b>				
Income level	-.150	.021	.001	.861
Service-connected disability	1.351	.157	.001	3.860
Income level	.483	.236	.041	1.621

## QUALITATIVE RESULTS

### Thematic Analysis

#### Major Themes Related to Barriers to Care

- There are unmet physical and mental health needs while active duty due to bureaucracy, military culture, mistrust in service providers, and a lack of specialty care

"There have been a few times where I've reported my symptoms... and they told me there's a chance that we have to flag you as non deployable. And that would immediately set off red flags in my head and I would...downplay my symptoms"

- Long wait times, navigating a male dominated environment, and a lack of specialty services reduce accessibility and lower satisfaction at the VA

"Initially I did go to the VA for the mental health services but...it is more male. I told them it was for an abusive relationship and they put me in with a bunch of guys...that had come there for a completely different reason"

- External and internal stigmatization impacts accessibility to care

"I don't want to be looked at as that veteran with PTSD that won't be able to function in society"

#### Major Themes Related to Satisfaction of Health Care Services

- VA satisfaction was based on patient-centered care, women-specific clinics, competent care, choice in service providers, and easily accessible mental health care

"The VA has a health care clinic specifically for women, so that's definitely one major reason why I think the health care is better"

"I've had great doctors and social workers that check up on me and it's been a good experience"

- Community care was valued for patient-centeredness, privacy, and less bureaucratic hurdles compared to active-duty care

"With the mental health services that I got out of pocket...it was easier to keep it private, so I felt a lot more open to sharing"

## DISCUSSION

### Summary of Findings

- WV are higher users of health care services which could suggest that they have many physical and mental health needs.
- The results indicate that low SES and identifying as a minority are barriers to preventative services and can increase the use of intensive services.
- WV face many challenges when accessing care which can cause them to have unmet needs.
- WV value choice, privacy, competence, mental health accessibility, and patient-centeredness when using health care.
- **Implications for Policy and Practice**
- WV health care will likely involve care outside of the VA, and so it is imperative that evidence-based practices for WV be implemented among community agencies.
- Low SES and minority WV may experience barriers to preventative care in both VA and non-VA settings, and thus initiatives should be geared toward increasing access to preventative services.

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