Social Determinants of Health for Military Service Members, Military Family Members and Veterans

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Joyce Grissom has nothing to disclose.
MILITARY MEDICINE, 171, 6:544, 2006

The Health Readiness of Junior Enlisted Military Women: The Social Determinants of Health Model and Research Questions

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Currently, women comprise 17% of the 1.4 million U.S. active military and 20% of the 1.2 million reserve force. Well over three-quarters of these women are enlisted (82%). Enlisted women are young, between the ages of 17 and 29, and one-half are ethnic minorities. Enlisted women are a growing minority within the predominantly male hierarchical military organization. The most junior of these women, in addition to being vastly outnumbered by men, fall along with junior enlisted men at the bottom of the military organizational structure. This unique position may have health consequences. The purpose of this article is to propose research questions within the context of the Marmot and Wilkinson’s social determinants of health model. Proposed research questions are provided to
Objectives

1) Identify 3 social or environmental factors significantly affecting active duty service members as they transition from active duty to civilian life

2) Describe how clinicians may bring consideration and engagement of social determinants impacting their patients’ health into their clinical practice, and or community service

3) Understand the purpose and study design of The Veterans Metrics Initiative (TVMI)
Social Determinants of Health for Military Families and Veterans

Agenda

- Social Determinants of Health – Stabilizing our Service Community - Dr. Wilder
- The Veterans Metrics Initiative-Linking Program Components to Post-Military Well Being - Ms. Gilman and Dr. Perkins
Social Determinants of Health
Stabilizing our Service Community

Gloria Wilder, MD MPH
VP Innovation and Health Transformation
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Disclosures

Gloria Wilder has nothing to disclose.
# Social Determinants of Health

## Economic Stability
- Employment
- Income
- Expenses
- Debt
- Medical bills
- Support

## Neighborhood and Physical Environment
- Housing
- Transportation
- Safety
- Parks
- Playgrounds
- Walkability

## Education
- Literacy
- Language
- Early childhood education
- Vocational training
- Higher education

## Nutrition
- Hunger
- Access to healthy options

## Community and Social Context
- Social integration
- Support system
- Community engagement
- Discrimination

## Healthcare System
- Health coverage
- Provider availability
- Provider linguistic and cultural competency
- Quality of care

## Health Outcomes
- Mortality
- Morbidity
- Life Expectancy
- Healthcare Expenditures
- Health Status
- Functional Limitations

Confidential and Proprietary Information
Requirements for a Healthful Life

- Health Outcomes
  - Length of Life (50%)
  - Quality of Life (50%)
- Health Factors
  - Health Behaviors (30%)
    - Tobacco Use
    - Diet & Exercise
    - Alcohol & Drug Use
    - Sexual Activity
  - Clinical Care (20%)
    - Access to Care
    - Quality of Care
  - Social & Economic Factors (40%)
    - Education
    - Employment
    - Income
    - Family & Social Support
    - Community Safety
  - Physical Environment (10%)
    - Air & Water Quality
    - Housing & Transit
- Policies & Programs


Washington, DC, is one of the most unequal cities in the United States, as reflected in different outcomes for average residents of Ward 3 and Ward 8.

**WARD 3**  
Most common job category is management, business, science, and arts occupations

- Mean per capita income: $88,000
- People who received food stamps in past 12 months: 1%
- Median house price: $858,000
- Household has broadband internet: 92%
- Own their own homes: 54%
- Unemployment rate: 3%
- Adults with no high-school diploma: 2%
- Adults with bachelor's degree or above: 87%
- Residents who are registered as disabled: 6%
- Residents with private health insurance: 92%

**WARD 8**  
Most common job category is service occupations

- Mean per capita income: $20,000
- People who received food stamps in past 12 months: 41%
- Median house price: $257,000
- Household has broadband internet: 58%
- Own their own homes: 21%
- Unemployment rate: 12%
- Adults with no high-school diploma: 15%
- Adults with bachelor's degree or above: 16%
- Residents who are registered as disabled: 18%
- Residents with private health insurance: 38%

What is the social risk score of a military family?

Social Risk Score High
Before and After Entering the Military.
Deployment increases Social Risk Score

- Quality of Housing
  Asthma, environmental hazards

- Food Insecurity
  Why are some military families on food stamps?

- Broken systems of care-VA.
  Mandated reporter

- Transition from service-Job readiness.
  Reintegration initiatives.

- Economic stress.
  Limited financial literacy.
  High need.

- Deployment/Demobilization cycle.
  Loss of social systems

- Behavioral Health Stigma: Social Isolation

- Trauma: Adverse Childhood Stress, PTSD

Confidential and Proprietary Information
Identify the Barriers

Work with the communities and members we serve to identify barriers that impede health outcomes.
Building a SDOH Framework

Policy & Systems-Level Change
Consult, inform and influence how integrated social and health policy are developed and implemented across military life.

Providers
Provider and network services support that builds, fosters & maintains the provider-patient relationship. Strengthening the medical home.

Community Assets
Individualized and military based interventions that efficiently and effectively unite local area partners to meet the needs for those living there. A military base should not be a site of social isolation.

The intersection of life and health
Let’s Talk!

Social Determinants of Health

- Environment
- Access
- Gender
- Culture
- Jobs
- Racism
- Colonization
- Languages
- Self-determination
- Justice
- Early childhood education
- Home
- Away from home
- School
- Family
- Housing
- Land
- and much more
The Veterans Metrics Initiative: 
Linking Program Components to Post-Military Well-Being

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Senior Vice President, Strategic Initiatives  
The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc.

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Principal Scientist and Founder, Clearinghouse for Military Family Readiness  
and Professor, Pennsylvania State University
Disclosures

Cynthia Gilman and Daniel Perkins have nothing to disclose.
Objectives

1) Identify 3 social or environmental factors significantly affecting active duty service members as they transition from active duty to civilian life

2) Describe how clinicians may bring consideration and engagement of social determinants impacting their patients’ health into their clinical practice, and or community service

3) Understand the purpose and study design of the TVMI Study
Is there a clear path to a successful transition/reintegration?
Research Aims

Aim 1:
• Document veteran well-being in 4 key domains - mental and physical health, vocation, finances, and social relationships - over the first 3 years of the transition from military service to civilian life
• Identify factors associated with better and worse well-being

Aim 2:
• Describe programs used by veterans as they reintegrate into civilian life and distill them into their components, identifying common components across programs

Aim 3:
• Identify program components that are associated with changes in well-being following separation from military service
Research Study Structure

Study Sponsors

- **HJF Program Director**
  - Daniel Perkins, PhD
  - Penn State

- **John Boyle, PhD**
  - ICF Int’l

- **Erin Finley, PhD**
  - South TX VA

- **Laurel Copeland, PhD**
  - VA Cent. West. Mass

- **Dawne Vogt, PhD**
  - Boston VA

Study Sponsors:

- Walmart
- Prudential
- Lockheed Martin
- Northrop Grumman
- VA
- HSR&D
- McCormick Foundation
- Schultz Foundation
- Health Net Federal Services
- The Heinz Endowments
- American Academy of Arts and Sciences
- Marge and Phil Odean
- May and Stanley Smith Charitable Trust
Conceptual Model of Veteran Reintegration

**PREDISPOSING FACTORS**
- Age, race, gender
- Education
- Branch
- Rank
- Years of service
- Family (spouse, children)

**NEED-BASED FACTORS**
- Disability
- Trauma exposure

**ENABLING FACTORS**
- Access to services
- Available resources
- Willingness to use services
- Resilience

**PROGRAM COMPONENTS**
- Content (What?)
- Process (How?)
- Barrier reduction
- Sustainability

**PROGRAM CHARACTERISTICS**
- Government or private
- Targeted domains
- Target audience
- IOM Area
- Veterans served
- Geographic areas
- Duration
- Quality (implementation, evaluation)
- Facilitator manual
- Theory / Logic model

**WELL-BEING**

**VOCATION**
- Employment / Education status (e.g., paid employment, student, homemaker, volunteer)
- Employment / Education functioning
- Employment / Education satisfaction

**FINANCES**
- Financial status (e.g., debt, savings)
- Financial functioning
- Financial satisfaction

**MENTAL & PHYSICAL HEALTH**
- Health status (e.g., quality of health, health conditions, health coverage)
- Health functioning
- Health satisfaction

**SOCIAL RELATIONSHIPS**
- Relationship / parental / community involvement
- Relationship / parental / community functioning
- Relationship / parental / community satisfaction
Operational Definitions

**Status:** Objective experience/role status
- Paid employment, unpaid work, and school/training participation
- Income, savings, debt, housing, retirement, insurance coverage
- Chronic mental or physical health conditions
- Intimate relationship, parenting, family & friends, community involvement

**Functioning:** Behaviors that reflect higher/lower well-being
- Quality of work, timeliness/reliability, interpersonal behavior
- Behavior related to cash & credit management, savings
- Health promoting/risk behavior (e.g., exercise, engagement in meaningful activities, risky drinking)
- Being supportive, avoiding conflict and problems, etc.

**Satisfaction:** Subjective experience of life domain
- Satisfaction with work and/or educational experiences (e.g., pay/benefits, work environment)
- Satisfaction with ability to afford expenses, savings, debt management
- Satisfaction with state of physical health, mental health, and access to health care
- Satisfaction with quality of relationships and community
## Sample Representativeness

<table>
<thead>
<tr>
<th>Category</th>
<th>Population (n=48,965)</th>
<th>Wave 1 (n=9,566)</th>
<th>Wave 6 (n=5,258)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>84.1%</td>
<td>81.8%</td>
<td>81.5%</td>
</tr>
<tr>
<td>Female</td>
<td>15.9%</td>
<td>18.2%</td>
<td>18.5%</td>
</tr>
<tr>
<td>Army</td>
<td>32.1%</td>
<td>32.9%</td>
<td>31%</td>
</tr>
<tr>
<td>Navy</td>
<td>18.8%</td>
<td>19.2%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Air Force</td>
<td>13.5%</td>
<td>19.0%</td>
<td>19.9%</td>
</tr>
<tr>
<td>Marines</td>
<td>17.2%</td>
<td>15.9%</td>
<td>16.6%</td>
</tr>
<tr>
<td>National Guard/Reserve</td>
<td>18.4%</td>
<td>12.9%</td>
<td>12.4%</td>
</tr>
<tr>
<td>E1-E4 Junior Enlisted</td>
<td>41.4%</td>
<td>27.5%</td>
<td>28.5%</td>
</tr>
<tr>
<td>E5-E6 MidGrade Enlisted</td>
<td>29.5%</td>
<td>30.0%</td>
<td>29.9%</td>
</tr>
<tr>
<td>E7-E9 Senior Enlisted</td>
<td>13.4%</td>
<td>17.9%</td>
<td>16.7%</td>
</tr>
<tr>
<td>W1-W5 Warrant Officers</td>
<td>1.1%</td>
<td>1.6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>O1-O3 Junior Officers</td>
<td>6.4%</td>
<td>8.4%</td>
<td>9.0%</td>
</tr>
<tr>
<td>O4-O10 Senior Officers</td>
<td>8.1%</td>
<td>14.7%</td>
<td>14.5%</td>
</tr>
</tbody>
</table>
Areas of Highest Well-Being

• Majority of veterans experience high post-military well-being
  • Nearly half experience high well-being across the board
  • Even many veterans with health problems experience at least moderate well-being in other domains (over 70%)

• Veterans report many areas of resilience

- High employment and strong work/educational functioning
- High level of social connectedness
- Strong parental functioning and satisfaction
Areas of Lowest Well-Being

Health

- Relatively high mental and especially physical health burden
  - Chronic pain, sleep problems, depression, and anxiety most commonly reported health problems
  - High screening rate for alcohol misuse and PTSD
  - If not addressed proactively, could erode well-being in other life domains over time

Finances

- Despite high employment rate, many veterans report financial challenges and exhibit poor financial functioning
- Suggests need for more attention to financial concerns, more emphasis on educating them on money management, savings, etc.
Predicting Difficulty Adjusting to Civilian Life

- High school education: 31%
- Not working full-time: 27%
- Risky financial status: 35%
- Medium to low resiliency scores: 42%
- Combat exposure: 35%

Chronic mental/emotional health conditions:
- Probable TBI
- Probable PTSD
- Probable depression
- Probable anxiety
- Probable alcohol misuse

0% 10% 20% 30% 40% 50% 60% 70%
Types of Adverse Childhood Experiences by Gender (n=5,875)

- Physical neglect: 14% females, 10% males
- Emotional neglect: 31% females, 18% males
- Physical abuse: 26% females, 17% males
- Emotional abuse: 39% females, 26% males
- Sexual abuse: 22% females, 6% males
- Domestic violence: 16% females, 11% males
- Family history of mental illness or alcohol abuse: 22% females, 38% males

(n=1,076) females, (n=4,800) males
Interaction Between ACEs & Combat Exposure

<table>
<thead>
<tr>
<th>Condition</th>
<th>Female (n=678)</th>
<th>Male (n=3,291)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ACEs, no exposure</td>
<td>49%</td>
<td>48%</td>
</tr>
<tr>
<td>3+ ACEs, no exposure</td>
<td>37%</td>
<td>12%</td>
</tr>
<tr>
<td>No ACEs, had combat exposure</td>
<td>7%</td>
<td>30%</td>
</tr>
<tr>
<td>3+ ACEs, had combat exposure</td>
<td>7%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Female (n=678) vs Male (n=3,291)
What Programs are Veterans Using in the Transition to Civilian Life?

![Bar chart showing the percentage of veterans using different programs in transition to civilian life. The programs include Employment, Education, Financial, Health, and Social. The data is divided into waves 1 to 5.](chart.png)
Common Components

• **Content**: what does the program teach or what information does it provide?
  • Coping skills, information on how to write a resume, search for available jobs

• **Process**: how does it convey information or teach skills?
  • Mode of delivery: in-person, online, phone
  • Method of delivery: lecture format, mentoring, peer-to-peer interaction

• **Barrier reduction**: does the program provide tangible supports or does it reduce barriers to accessing the program?
  • Transportation to the program, reducing stigma

• **Sustainability**: how does the program keep participants engaged once formal programming has ended?
  • Community referrals, alumni groups
### Components that Increase Program Access

<table>
<thead>
<tr>
<th>Component</th>
<th>Employment</th>
<th>Education</th>
<th>Legal, financial, housing</th>
<th>Health</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of transport to the program</td>
<td>13%</td>
<td>13%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of motivation</td>
<td>18%</td>
<td>25%</td>
<td>7%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Fees</td>
<td>13%</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Lodging</td>
<td>18%</td>
<td>23%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>No insurance</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Stigma associated with program use</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
</tr>
</tbody>
</table>

This chart illustrates the percentage of individuals who reported each component as an obstacle to program access, categorized by type of assistance needed.
Barrier Reduction: Access to Healthcare

• Significant predictors of nominating a health program that offers transportation (n=708):
  • Currently serving NGR after leaving Active Duty – less likely
  • Discharge status – 69% more likely if medical discharge
  • Those who have ever applied for VA or DoD service connected disability – almost 5 times more likely
  • Probable PTSD – 39% more likely
  • TBI symptoms – 2 times more likely
Components that Provide Tangible Supports

- **Discounted pricing on goods and services**: 24% (Social), 9% (Legal, financial, housing), 7% (Education), 5% (Legal, financial, housing), 9% (Employment), 5% (Education)
- **Clothes or other physical objects**: 18% (Health), 8% (Legal, financial, housing), 5% (Legal, financial, housing), 8% (Health), 5% (Legal, financial, housing), 4% (Employment)
- **Housing, incl. accessibility modifications**: 11% (Social), 4% (Education), 3% (Legal, financial, housing), 4% (Education), 5% (Legal, financial, housing), 3% (Employment)
Questions?

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