Post-Deployment Health of OEF/OIF Women Veterans who use VA

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OEF/OIF/OND Women who Use VA

- Who are they?
- What are their health conditions after deployment?
- How much are they using VA compared to men?
- What are some important health outcomes for women?
- What is the impact on VA?
Changing Demographics

- Active Duty Forces are now more than 15% Female
- 50%+ female OEF/OIF/OND Veterans are enrolling for VA care
Health Care Needs of Returning Combat Veterans
Combat Veterans Health Concerns

- Some health concerns are consistent after every war while others are unique to each conflict.
- Most common conditions for all conflicts:
  - Musculo-skeletal injuries with pain
  - Diagnosable mental health conditions
  - Unexplained symptoms
  - Dental
  - Hearing
Combat Veterans Health Concerns

- Unique to conflict
  - WW I: Poison gas; trench warfare with artillery blast exposure
  - WW II: Cold injury (European); Peptic Ulcer Disease (PUD) and Gastroenterology (GI) complaints
  - Korea: Cold injury
  - Vietnam: Agent Orange
  - Post Gulf War (PGW) I: Unexplained Medical Symptoms
  - OEF/OIF: Traumatic Brain Injury (TBI) / Polytrauma
Stressors of War: Physical

- Injury
- Noise
- Temperature
- Sleep deprivation
- Diet
- Austere conditions
- Toxic agents
- Infectious agents
- Multiple immunizations
- Blast wave/head injury
Stressors of War: Psychological

- Anticipation of combat
- Combat trauma
- Non-combat trauma
- Separation from family/home
- Deprivation
Stressors of War: Psychosocial

- Marital/parenting issues
- Social functioning
- Occupational/financial concerns
- Risk of re-deployment
- Spiritual/existential
Toxic/Environmental Exposures
Improvised Explosive Device

- > 60% of service members in Iraq/Afghanistan have had some degree of blast exposure. Mild TBI is considered the signature wound of this conflict.

Deployment Risk Factors

- Combat exposure
- Heavy gear
- Ceramic vests
- Heavy equipment
- Duties
- Driving, walking, jumping, running
- Extreme temperature
- Hygiene issues
- Dietary issues
- Interactions with male counterparts
- Family and other relationship issues
Health Care Concerns
OEF/OIF/OND Veterans Seen in VA

1,285,631 of the 2.2 million deployed, are separated and eligible for VA; 50%+ seen in VA between FY02 and April 2011

- Musculoskeletal 54.7%
- Mental disorders 50.7%
- Ill defined conditions 49.2%
- Nervous system (hearing) 42.5%
- GI (dental) 35.2%
- Endocrine/Nutrition 29.7%
- Injury/Poisoning 27.5%
- Respiratory 24.9%

Source: VHA Office of Public Health and Environmental Hazards, April 2011
Women Veterans Cohort Study

- Roster of all Veterans of OEF/OIF-linked to VA clinical and administrative data bases
- Provides data from 2001 to current
- Goal is to determine gender differences in medical and mental health outcomes, healthcare costs and utilization after combat exposure in OEF/OIF

VA Connecticut Co-Investigators:
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- Amy Justice, MD, PhD
- Kristin Mattocks, PhD
- Joseph Goulet, PhD
- Patricia Rosenberger, PhD
- Robert Kerns, PhD
- Douglas Leslie, PhD
- Erin Krebs, MD, MPH
- Oni Blackstock, MD
- Norman Silliker
- 40+ others
Women vs. Men: First Year, Post-Deployment
Characteristics of OEF/OIF VA Users

Women

- Average age: 30
- Race:
  - 53% White
  - 30% Black
  - 11% Hispanic
  - 6% Other
- Married: 32%
- Education: More than High School: 30%

Men

- Average age: 32
- Race:
  - 69% White
  - 15% Black
  - 10% Hispanic
  - 6% Other
- Married: 49%
- Education: More than High School: 24%

Source: Haskell, 2011, Women’s Health Issues
Differences in Rank, Branch and Component VA Users

- **Women are:**
  - less likely to be enlisted: 91% of Women vs. 92% of Men are Enlisted
  - more likely to be officers: 9% of Women and 8% of Men are Officers
  - **most** likely to be in the Army
  - **least** likely to be in the Marines

- **Equal proportions of men and women (37%)** Active Duty vs. Guard and Reserve

Source: Haskell, 2011, Women’s Health Issues
Most Common Conditions for Women

- Back problems
- Joint Disorders
- Post Traumatic Stress Disorder (PTSD)
- Reproductive Health Conditions
- Mild Depression
- Musculoskeletal Problems
- Adjustment Disorders
- Skin Disorders
- Major Depression
- Hearing Disorders

Source: Haskell, 2011, Women’s Health Issues
Conditions More Common for Women than Men

- Women are more likely to have:
  - depression
    - 6.8% vs. 4.1% Mild Depression; 3.3% vs. 1.4% Major Depression
  - adjustment disorders
    - 4.1% vs. 3.5%
  - musculoskeletal disorders
    - 4.6% vs. 4.1%
  - skin disorders
    - 3.9% vs. 2.6%

Source: Haskell, 2011, Women’s Health Issues
## Frequency of Visits

<table>
<thead>
<tr>
<th>Measure</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or more primary care visits</td>
<td>86.6%</td>
<td>79.9%</td>
</tr>
<tr>
<td>Mean number primary care visits</td>
<td>2.56</td>
<td>2.08</td>
</tr>
<tr>
<td>1 or more mental health visits</td>
<td>42.1%</td>
<td>42.6%</td>
</tr>
<tr>
<td>Mean number of mental health visits</td>
<td>4.02</td>
<td>3.61</td>
</tr>
<tr>
<td>Fee Basis Services</td>
<td>14.3%</td>
<td>10.5%</td>
</tr>
</tbody>
</table>

Source: Haskell, 2011, Women’s Health Issues
Combat Related Injuries
Female Poly Trauma Admissions, Foreign Theater Injury 2003-2010

<table>
<thead>
<tr>
<th>Poly trauma Center</th>
<th>Female Admissions 2002-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richmond</td>
<td>4</td>
</tr>
<tr>
<td>Tampa</td>
<td>8</td>
</tr>
<tr>
<td>Palo Alto</td>
<td>9</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Data provided by National Rehabilitation Program Office
Poly Trauma Injury Prevalence (Females) in Those Admitted to Poly Trauma units

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain Injury</td>
<td>91%</td>
</tr>
<tr>
<td>PTSD</td>
<td>50%</td>
</tr>
<tr>
<td>Vision Loss</td>
<td>32%</td>
</tr>
<tr>
<td>Orthopedics (fractures)</td>
<td>5%</td>
</tr>
<tr>
<td>Burns</td>
<td>5%</td>
</tr>
<tr>
<td>Hearing Loss</td>
<td>27%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: Data provided by National Rehabilitation Program Office
How many women OEF/OIF Veterans Have TBI?  
(Iverson, 2010)

OEF/OIF Screened Veterans  
N = 327,633

Females  
N = 40,448

Had Comprehensive TBI Evaluation  
N = 1,912

Confirmed Deployment-related mTBI  
N = 654

Males  
N = 287,185

Had Comprehensive TBI Evaluation  
N = 31,873

Confirmed Deployment-related mTBI  
N = 11,951
Other Specific Issues for Women Veterans of OEF/OIF/OND
Musculoskeletal Conditions

- For women and men Veterans who come to the VA, the prevalence of painful musculoskeletal conditions including back problems, musculoskeletal problems and joint problems increases every year after deployment…but, it increases more for women than men

- By 7 years after deployment:
  - 20% of women and 17% of men have back problems
  - 12% of women and 10% of men have musculoskeletal conditions
  - 19% of women and 17% of men have joint problems

Homelessness Among OEF/OIF Veterans

OEF/OIF Study population (445,319)

Women
53,650 (12%)

Homeless women
961 (1.8%)

Men
391,667 (88%)

Homeless men
6,470 (1.7%)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Homeless Women (n=961)</th>
<th>Homeless Men (n=6,470)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median (IQR)</td>
<td>25 (22-30)</td>
<td>24 (22-31)</td>
</tr>
<tr>
<td>Race/ethnicity, (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>30.4%</td>
<td>51.6%</td>
</tr>
<tr>
<td>Black</td>
<td>46.9%</td>
<td>25.6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11.3%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Major depression</td>
<td>20.4%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Post-traumatic stress disorder</td>
<td>35.7%</td>
<td>42.6%</td>
</tr>
<tr>
<td>Alcohol use disorder</td>
<td>14.9%</td>
<td>27.7%</td>
</tr>
<tr>
<td>Substance use disorder</td>
<td>10.9%</td>
<td>21.2%</td>
</tr>
</tbody>
</table>

Obesity

- At first visit, 69.9% of male and 49.8% of female Veterans were overweight/obese
- Risk for overweight/obesity is higher for male and older Veterans at entry into VHA
- Veterans who enter VHA with higher initial BMI are more likely to have greater weight fluctuations over time and gain more weight over the first 6 years of VHA involvement

Overweight/Obese OEF/OIF Veterans

Source: 2008 VSSC
Overweight: BMI ≥ 25
Obese: BMI ≥ 30
Pregnancy

- In a study of women Veterans of OEF/OIF, who were less than 50 years old, and used VA, from 2001-2008:
  - 43,078 women returned from deployment
  - 2,966 (7%) had a pregnancy during the time period

How do needs of OEF/OIF/OND Women Impact VA Services?
Integrated Post-Combat Care
PDICI (Post-Deployment Integrated Care Initiative 2008)
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New Directions in Care of Combat Veterans

- Formalize the notion of post-combat care
- Standardize approaches to post-combat care
- Integrate post-combat care services (both within VA, interagency and community-wide) to enhance care for returning OEF/OIF/OND Veterans
- Enhance post-combat care for Veterans from earlier conflicts
- Establishing systems of care for Veterans of future conflicts
Post-Deployment Integrated Care

- Non-combat injury
- Combat injury
- Environmental exposure illness
- Non-combat illness
- TBI
- Marital/family financial difficulties
- Post-combat symptoms
- Spiritual / existential struggles
- C&P needs
- Hearing loss tinnitus
- Mental health
- Post-deployment integrated care

7/16/2011
Women VA Patients: Three Peaks

Age distribution among women Veteran VHA patients (#), FY00 and FY09

Source: Women’s Health Evaluation Initiative (WHEI) and the Women Veterans Health Strategic Health Care Group; Sourcebook: Women Veterans in the Veterans Health Administration V1: Sociodemographic Characteristics and Use of VHA Care, 2011.
Increasing Demand

- Influx of younger women
- Reproductive Healthcare
- Maternity Care
- Mental Healthcare
- Combat Injuries
- Musculoskeletal Injuries
Increasing Demand

- Family Issues
- Reintegration
- Military Sexual Trauma
- Homeless Services
- Care Coordination
- Privacy, safety, convenience