



*SUMMIT* 2011 National Training Summit  
on Women Veterans



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

**Sally Haskell, MD**

Associate Professor of Medicine, Yale University School of Medicine

Acting Director, Comprehensive Women's Health

Women Veteran's Health Strategic Healthcare Group

Department of Veterans Affairs

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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



**WERE YOU EXPOSED TO IONIZING RADIATION?**

**VETERANS OF NUCLEAR TESTS AND OPERATIONS MAY BE AT RISK**

The National Association of Atomic Veterans, Inc. is a nonprofit veterans service corporation dedicated to assisting an estimated one million U. S. veterans, from all service branches, who were first hand participants in nuclear weapons test detonations, from July 16, 1945 to Nov. 23, 1992. Exposure to ionizing radiation particles has caused severe health anomalies in many of these participants and, in many cases of genetic mutations, to their children. N.A.A.V., Inc. is also dedicated to assisting military personnel who were assigned to attend nuclear weapons test detonations sponsored by other nations plus the nuclear technicians responsible for the operation and maintenance of nuclear power plants on aircraft carriers or submarines, and veterans who were exposed to Depleted Uranium (DU) munitions during and after the Gulf War.

**IF YOU WERE ONE OF THEM YOU ARE AN ATOMIC VETERAN!**  
**SHOULD YOU BE ON THE VA IONIZING RADIATION REGISTRY?**

**KANSAS STATE COMMANDER**  
**Gary M. Thornton, Sr.**  
 527 W. North St. • Leavenworth, KS 67074 • 1-918-864-2509  
<http://www.naav.com/>



# 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.
- “The Invisible Wounds of War” RAND Monograph, 2008



# 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:

- Cynthia Brandt, MD, MPH
- Sally Haskell, MD
- 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

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



Source: Haskell, 2011, Women's Health Issues

# Combat Related Injuries



# Female Poly Trauma Admissions, Foreign Theater Injury 2003-2010

Poly trauma Center	Female Admissions 2002-2010
Richmond	4
Tampa	8
Palo Alto	9
Minneapolis	5



Source: Data provided by National Rehabilitation Program Office



# Poly Trauma Injury Prevalence (Females) in Those Admitted to Poly Trauma units

Condition	Prevalence
Brain Injury	91%
PTSD	50%
Vision Loss	32%
Orthopedics (fractures)	5%
Burns	5%
Hearing Loss	27%
Anxiety	14%



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

Males  
N = 287,185

Had Comprehensive  
TBI Evaluation  
N = 1,912

Had Comprehensive  
TBI Evaluation  
N = 31,873

Confirmed Deployment-related  
mTBI  
N = 654

Confirmed Deployment-related  
mTBI  
N = 11,951



# Other Specific Issues for Women Veterans of OEF/OIF/OND



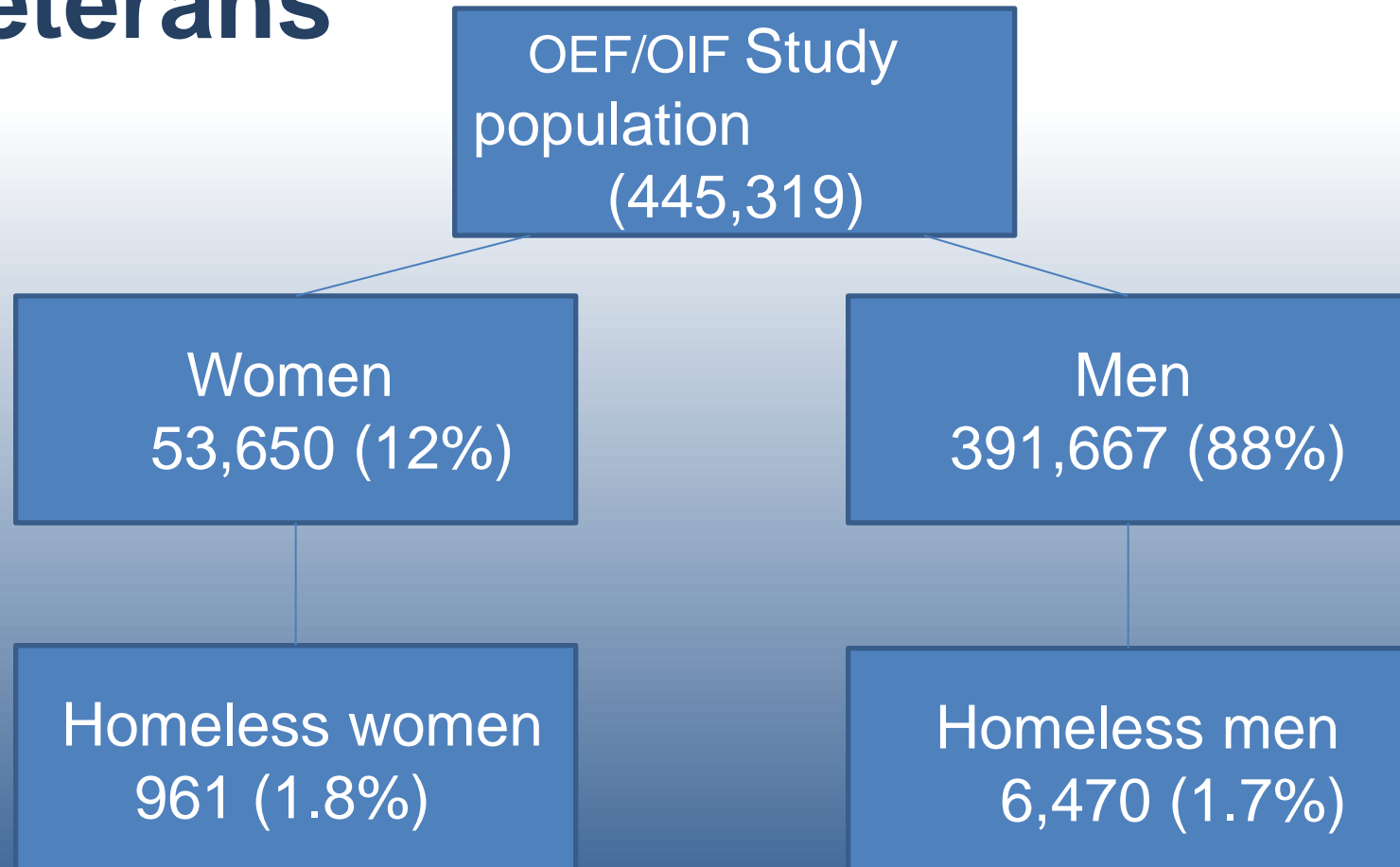
# Musculoskeletal Conditions

- 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



Source: Haskell, 2011, Clinical Journal of Pain, in Press

# Homelessness Among OEF/OIF Veterans



Source: Blackstock, 2011 Presented at Academy Health, Seattle Washington,  
Manuscript in press.

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



Source: Blackstock, 2011 Presented at Academy Health, Seattle Washington,  
Manuscript in press.

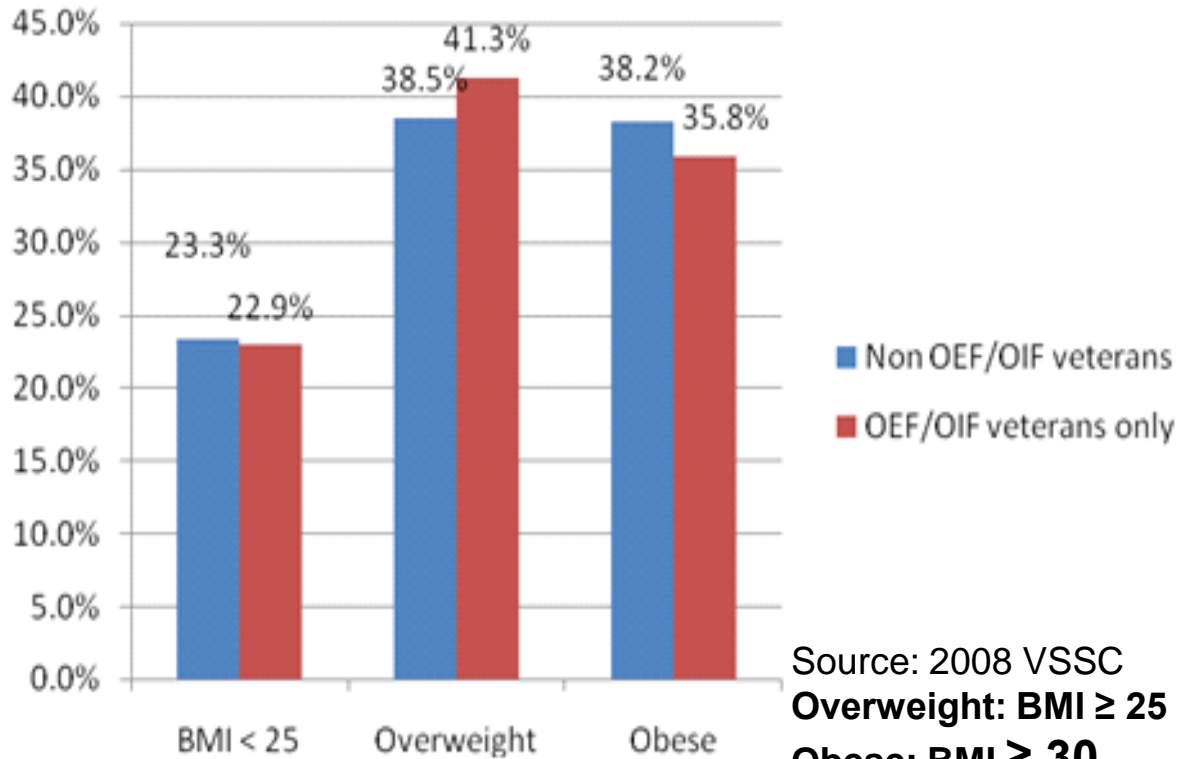
# Obesity

- 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



Source: Rosenberger, 2010, Presented at HSR&D Women's Health Meeting, Washington DC, Manuscript in press.

# Overweight/Obese OEF/OIF Veterans





# 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



Defining  
**EXCELLENCE**  
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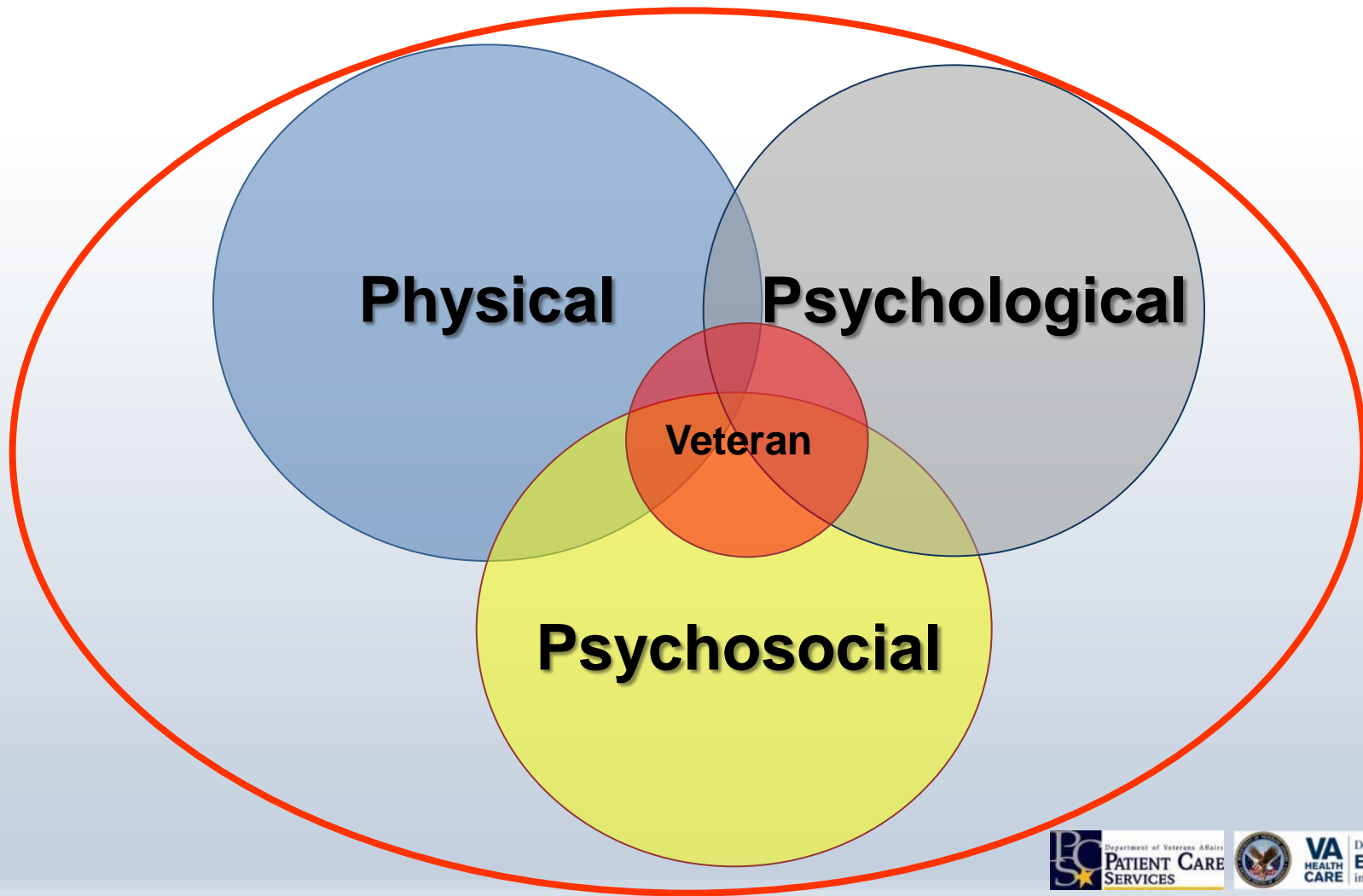
Source: Mattocks, 2011, Journal of Women's Health.

# How do needs of OEF/OIF/OND Women Impact VA Services?



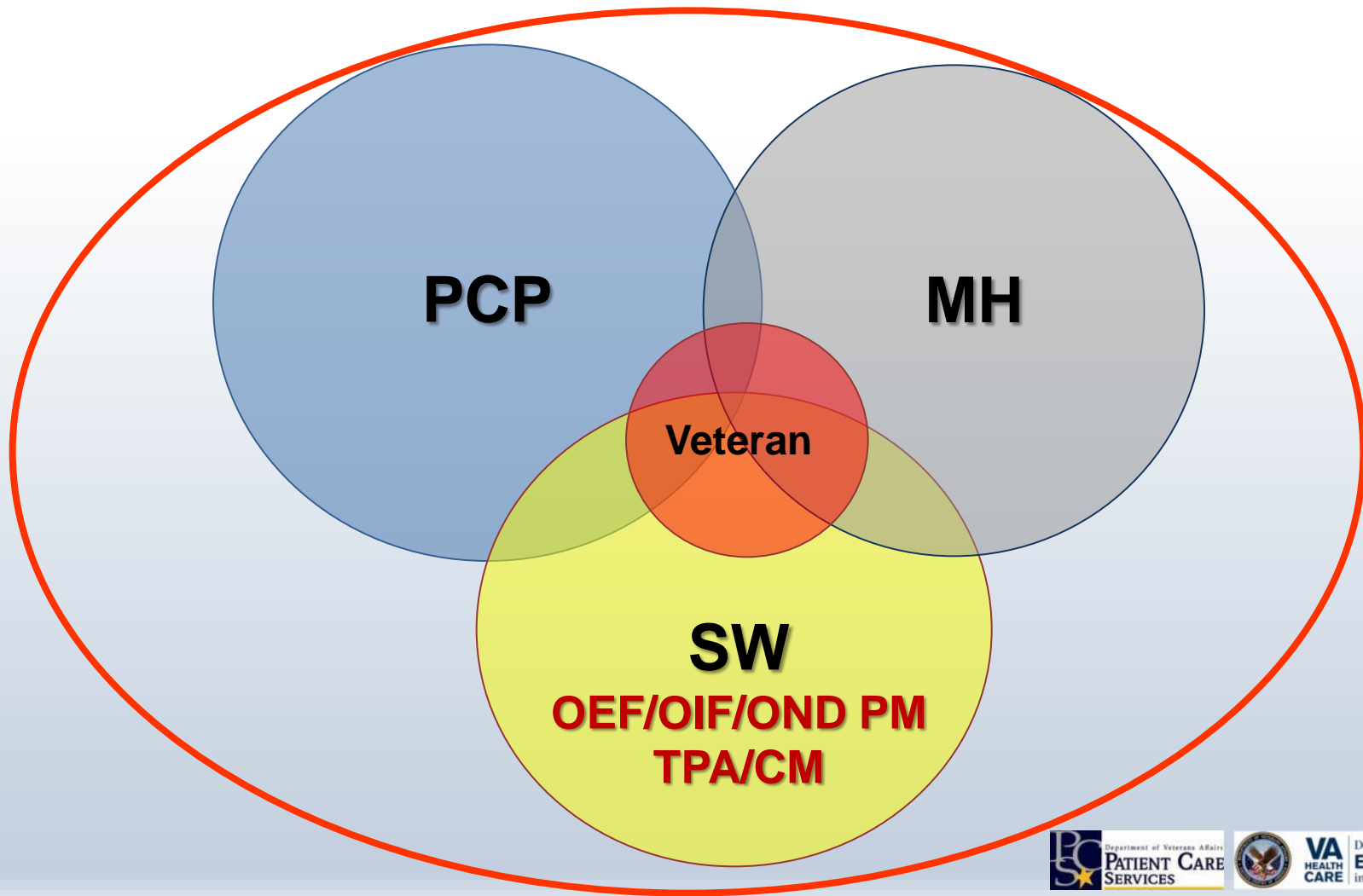
# Integrated Post-Combat Care

PDICI (Post-Deployment Integrated Care Initiative 2008)



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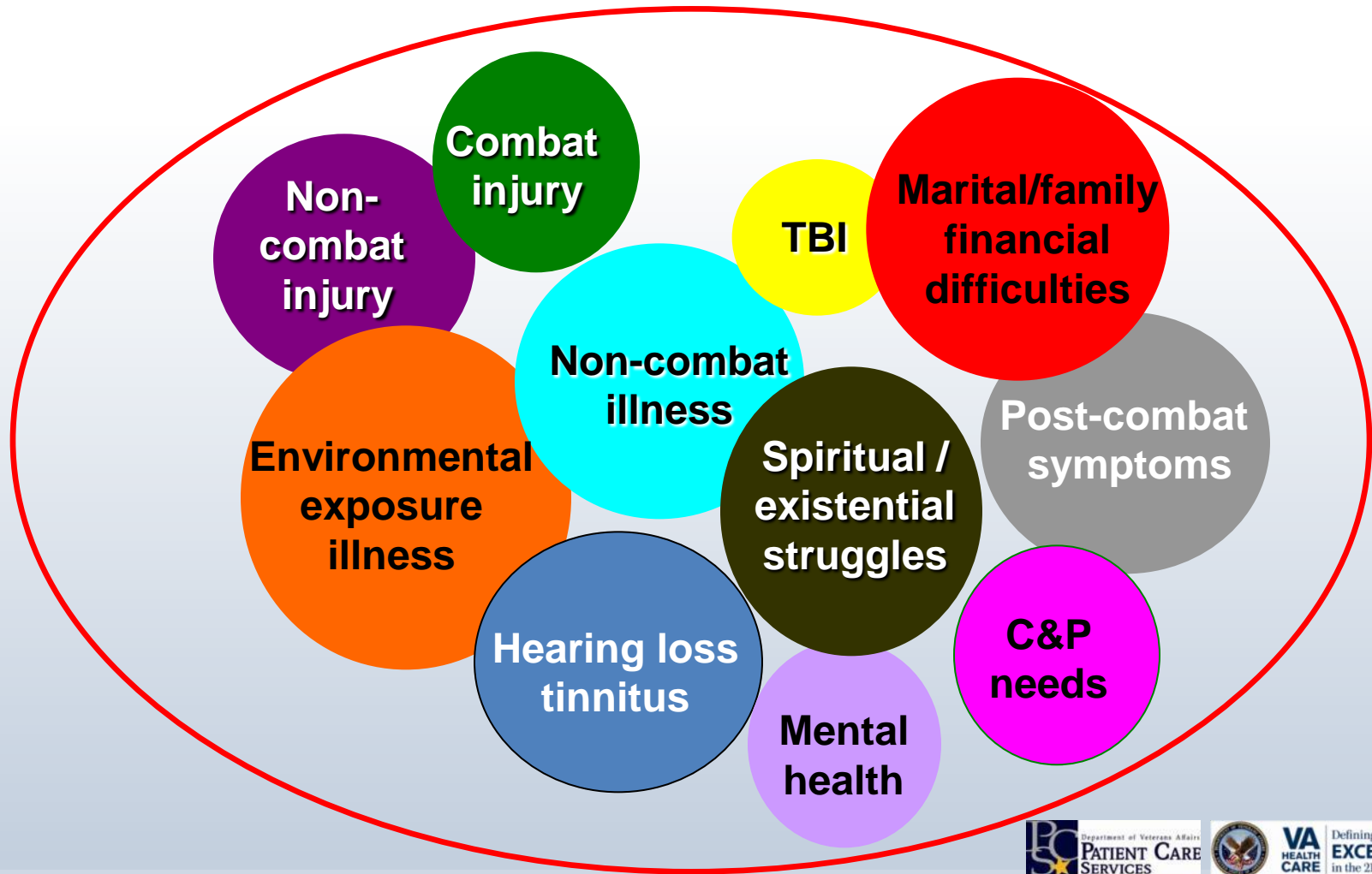


# New Directions in Care of Combat Veterans

- 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



# 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



