



# **Veterans Health Research: A Focus on Women**

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February 22, 2016



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**The Honorable David J. Shulkin, M.D.**

Under Secretary for Health Department of Veterans Affairs

**Elizabeth Yano, Ph.D., MSPH**

Director, HSR&D Center for the Study of Healthcare Innovation,  
Implementation and Policy

VA Greater Los Angeles Healthcare System

**Sally Haskell, M.D.**

Deputy Chief Consultant for Clinical Operations and Director of  
Comprehensive Women's Health, Women's Health Services, VHA

Associate Professor, Yale School of Medicine

*Veterans Health Research: A Focus on Women*

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**VA Women Veterans' Health Research:  
*Improving Capacity & Impacts***

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**Elizabeth M. Yano, PhD, MSPH**

**FOVA Congressional Briefing • February 22, 2016**

**VA**



**U.S. Department of Veterans Affairs**

Veterans Health Administration

Health Services Research & Development Service

## **Funded by VA Health Services Research & Development (HSR&D)**

David Atkins, MD, MPH (Director) and Linda Lipson, MA (Scientific Program Manager)



**CSHIIP**

Center for the Study of Healthcare  
Innovation, Implementation & Policy

**Ci2i**

CENTER FOR INNOVATION  
TO IMPLEMENTATION



Elizabeth M. Yano, PhD, MSPH

Susan M. Frayne, MD, MPH

Alison Hamilton, PhD, MPH



Paul Shekelle, MD, PhD (Los Angeles)

John Williams, MD, MPH (Durham)

Timothy Wilt, MD, MPH (Minneapolis)

## **In Collaboration with VA Women's Health Services**

Patricia Hayes, PhD, Chief Consultant, and her Team

# VA Women Veterans' Research

- Important progress advancing women Veterans' research over past decade nationally
- Progress beginning to *accelerate*...

JGIM

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## PERSPECTIVE

### **Toward a VA Women's Health Research Agenda: Setting Evidence-based Priorities to Improve the Health and Health Care of Women Veterans**

Elizabeth M. Yano, PhD,<sup>1,2</sup> Lori A. Bastian, MD,<sup>3,4</sup> Susan M. Frayne, MD, MPH,<sup>5,6</sup> Alexandra L. Howell, PhD,<sup>7,8</sup> Linda R. Lipson, MA,<sup>9</sup> Geraldine McGlynn, MEd,<sup>10</sup> Paula P. Schnurr, PhD,<sup>8,11</sup> Margaret R. Seaver, MD, MPH,<sup>12,13</sup> Ann M. Spungen, PhD,<sup>14,15</sup> Stephan D. Fihn, MD, MPH<sup>16,17</sup>

### **The State of Women Veterans' Health Research**

#### **Results of a Systematic Literature Review**

Caroline L. Goldzweig, MD, MSHS,<sup>1</sup> Talene M. Balekian, MPH, DO,<sup>1</sup> Cony Rolón, BA,<sup>1,2</sup> Elizabeth M. Yano, PhD,<sup>1</sup> Paul G. Shekelle, MD, PhD<sup>1,2</sup>

### **Integration of Women Veterans into VA Quality Improvement Research Efforts: What Researchers Need to Know**

Elizabeth M. Yano, PhD, MSPH<sup>1,2</sup>, Patricia Hayes, PhD<sup>3</sup>, Steven Wright, PhD<sup>4</sup>, Paula P. Schnurr, PhD<sup>5,6</sup>, Linda Lipson, MA<sup>7</sup>, Bevanne Bean-Mayberry, MD, MSHS<sup>1,8</sup>, and Donna L. Washington, MD, MPH<sup>1,8</sup>

# Solution to ↑ Research on Women Veterans and their Inclusion in VA Research



# Strategic Research Development

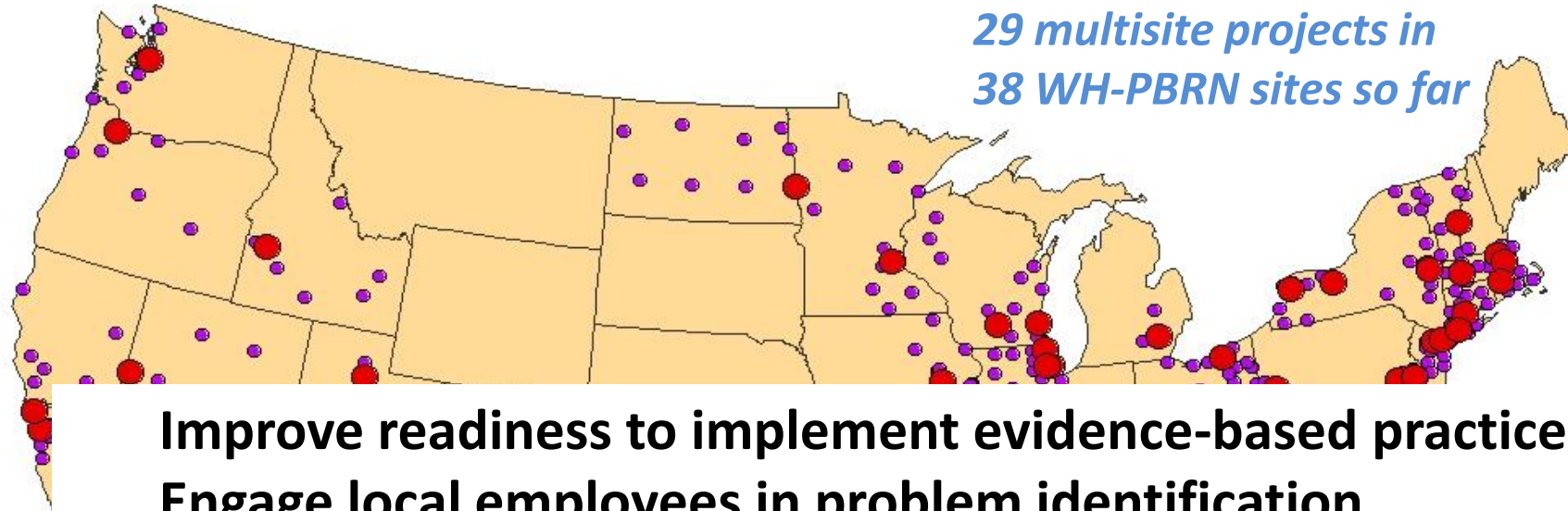
- Most VA women's health research used to be mental health focused → ↑ *breadth, focus on lifespan*



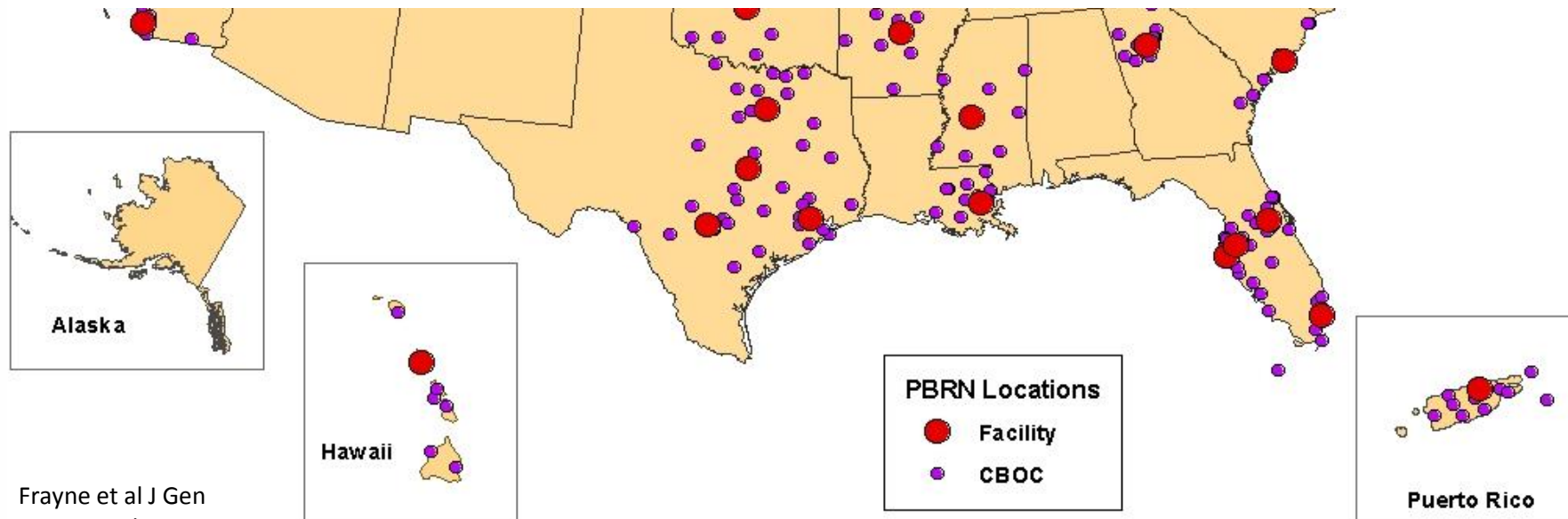
- ↑ equitable benefit of VA research through inclusion
- ↑ focus on research-clinical-policy partnerships to increase implementation and impacts

# VA Women's Health Practice Based Research Network (PBRN)

*29 multisite projects in  
38 WH-PBRN sites so far*



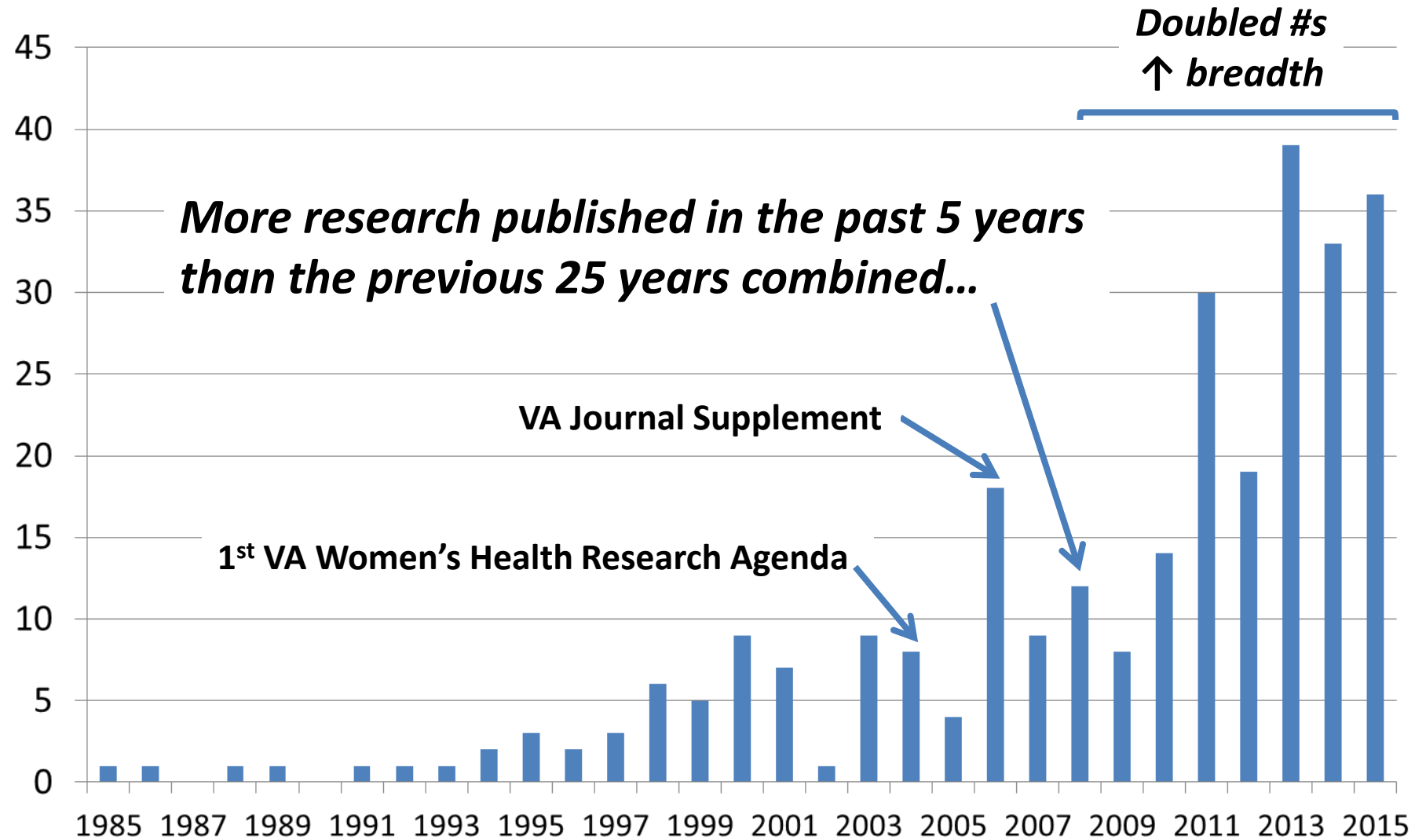
**Improve readiness to implement evidence-based practice**  
**Engage local employees in problem identification**  
**Include the voices of women Veterans in VA research**



# VA HSR&D Women Veterans' Health Research Portfolio Growing...

- PTSD, military sexual trauma
- Substance use disorder treatment (incl alcohol)
- Intimate partner violence
- Treatment of HCV infection
- Musculoskeletal pain
- Gender disparities in satisfaction with VA
- Tailoring primary care
- Quality of non-VA care
- Access and utilization
- Cardiovascular risk reduction
- Diabetes prevention and weight management
- Collaborative care for depression, anxiety, PTSD
- Insomnia treatment
- Contraceptive use
- Pre-conception care
- Maternity care coordination
- Pregnancy outcomes
- Work and family functioning

# ↑ Published Women Veterans Research

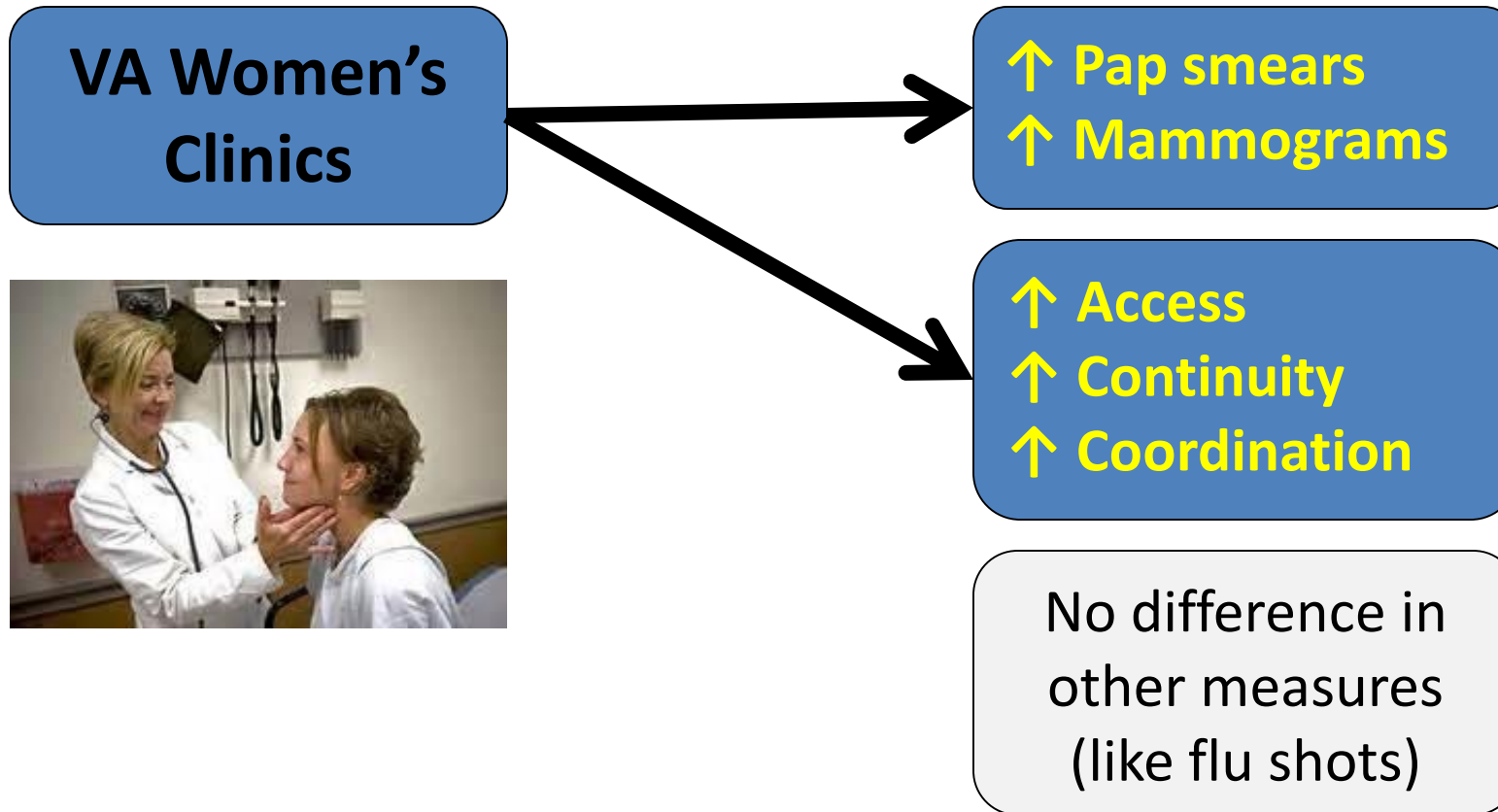


# VA HSR&D CREATE Initiative

- **VA HSR&D launched CREATE initiative to foster partnered research to ↑ research impacts**
  - Group of coordinated synergistic research projects
  - High-priority area in partnership with VA leaders
  - Demonstrate impacts *within 5 years*
- **10 CREATEs funded in 2013, including Women's Health**
  - **Goal: *Use research to accelerate implementation of comprehensive care for women Veterans***
  - Working with VHA, VISNs and VAMCs, as well as women Veterans

# Why a Focus on Comprehensive Care?

*Early research showed differences between VA women's clinics and general primary care clinics*



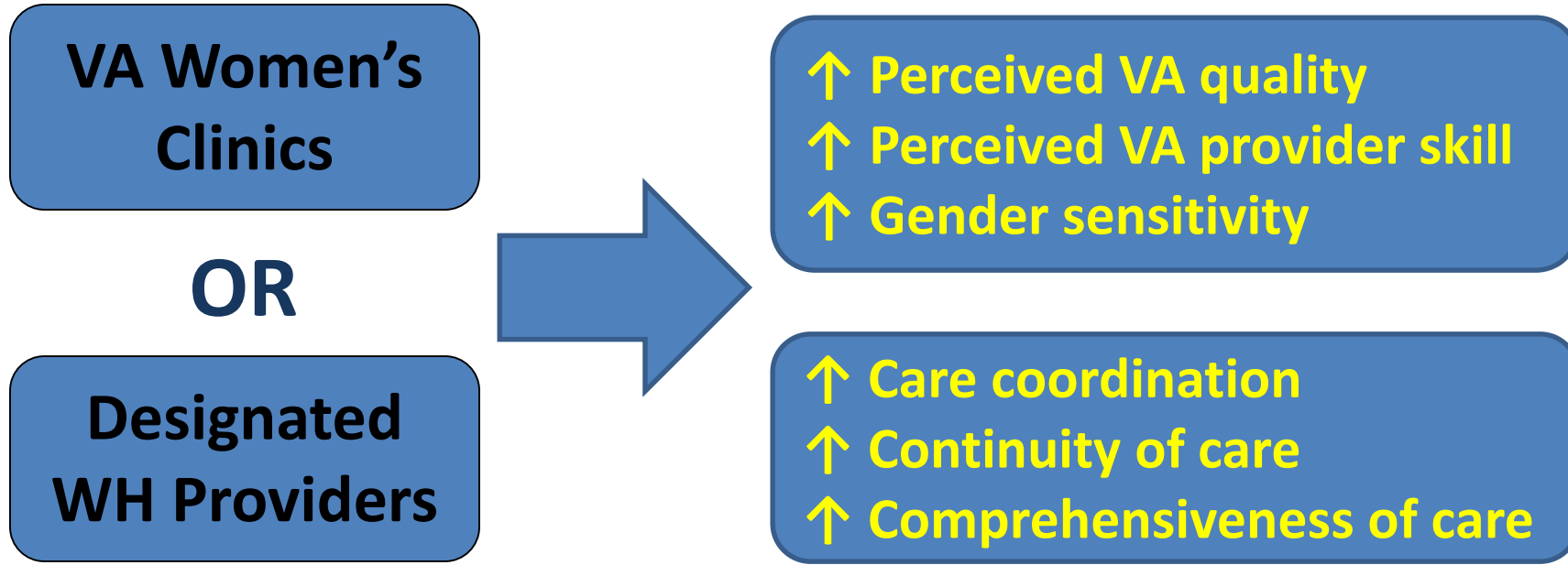
# What made the difference?

## Comprehensiveness

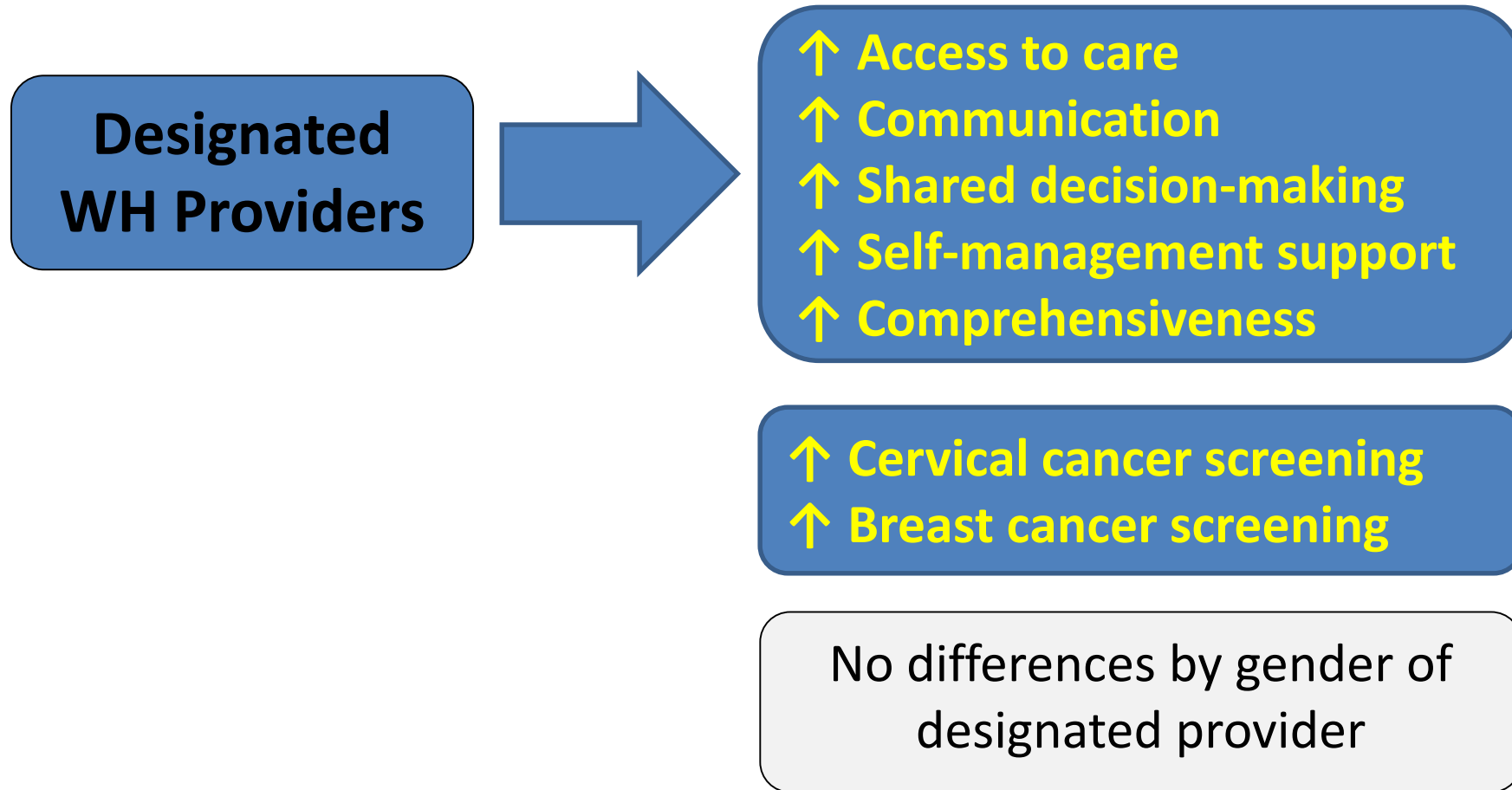
**VA Women's  
Clinics**



# Are VA women's clinics the only way to achieve improvements?



# VA Designated WH Providers Appear to be Key

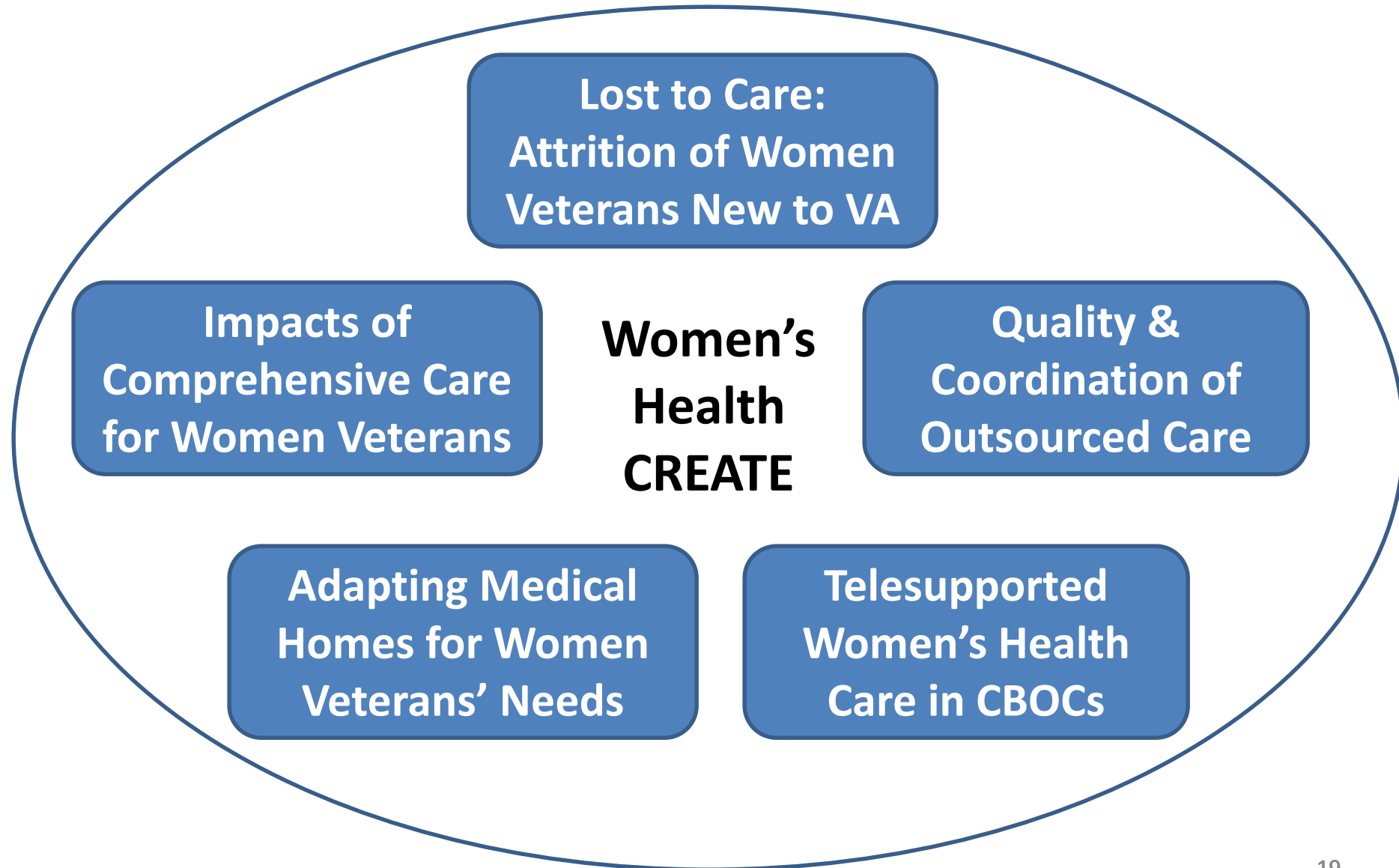


# Women Veterans' Healthcare CREATE

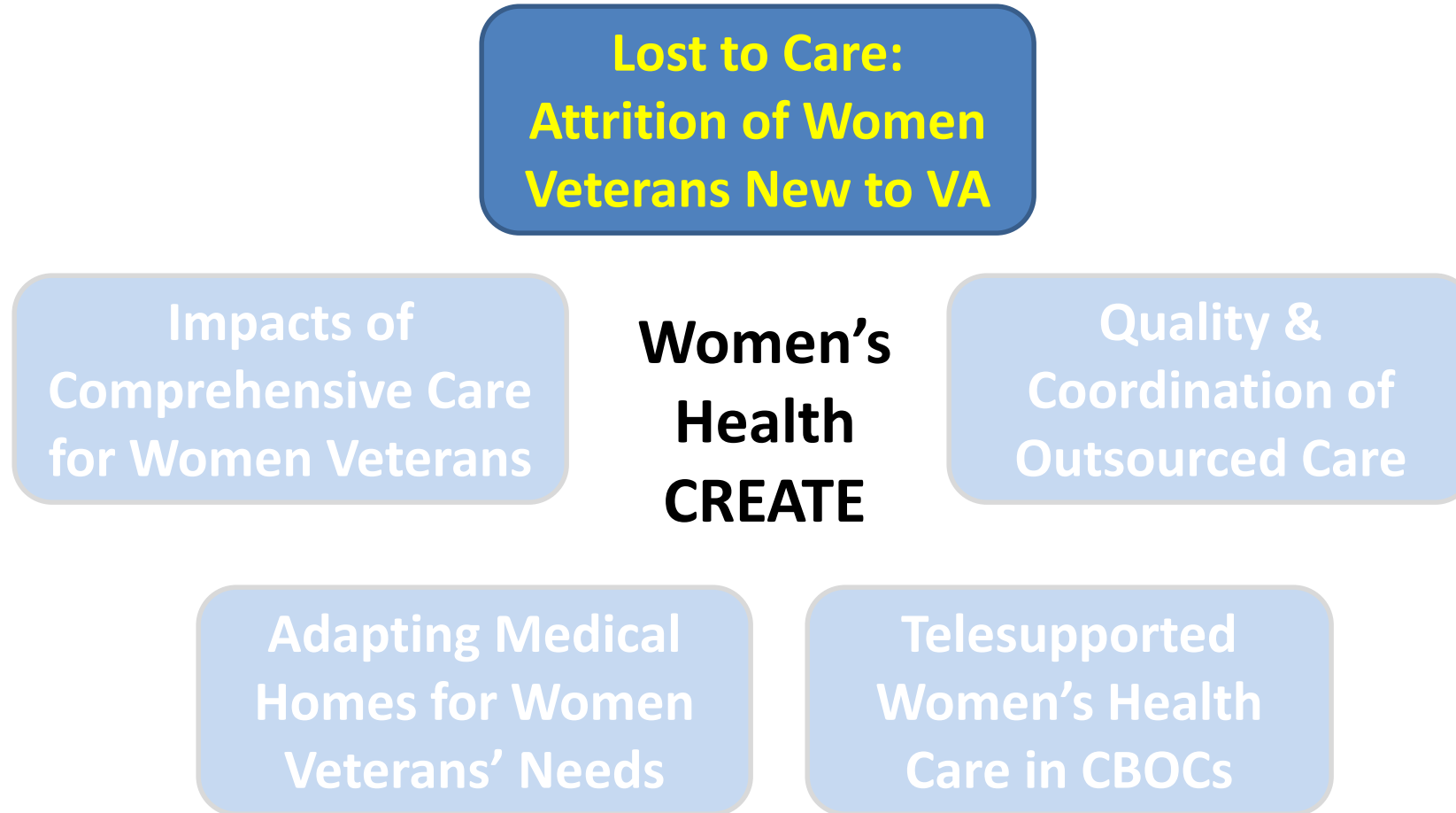
## Anchored in VHA Policy

- “...each VA facility must ensure that eligible women Veterans have access to **comprehensive medical care, including care for gender-specific and mental health conditions**...comparable to care provided for male Veterans.”
- “...all enrolled women Veterans need to receive comprehensive primary care from a **designated women's health primary care provider** who is interested and proficient in the delivery of comprehensive primary care to women, **irrespective of where they are seen**” and “regardless of the number of women Veterans utilizing a particular facility.”
- In environments sensitive to women Veterans' **needs, safety, and dignity**

# Five Component Projects

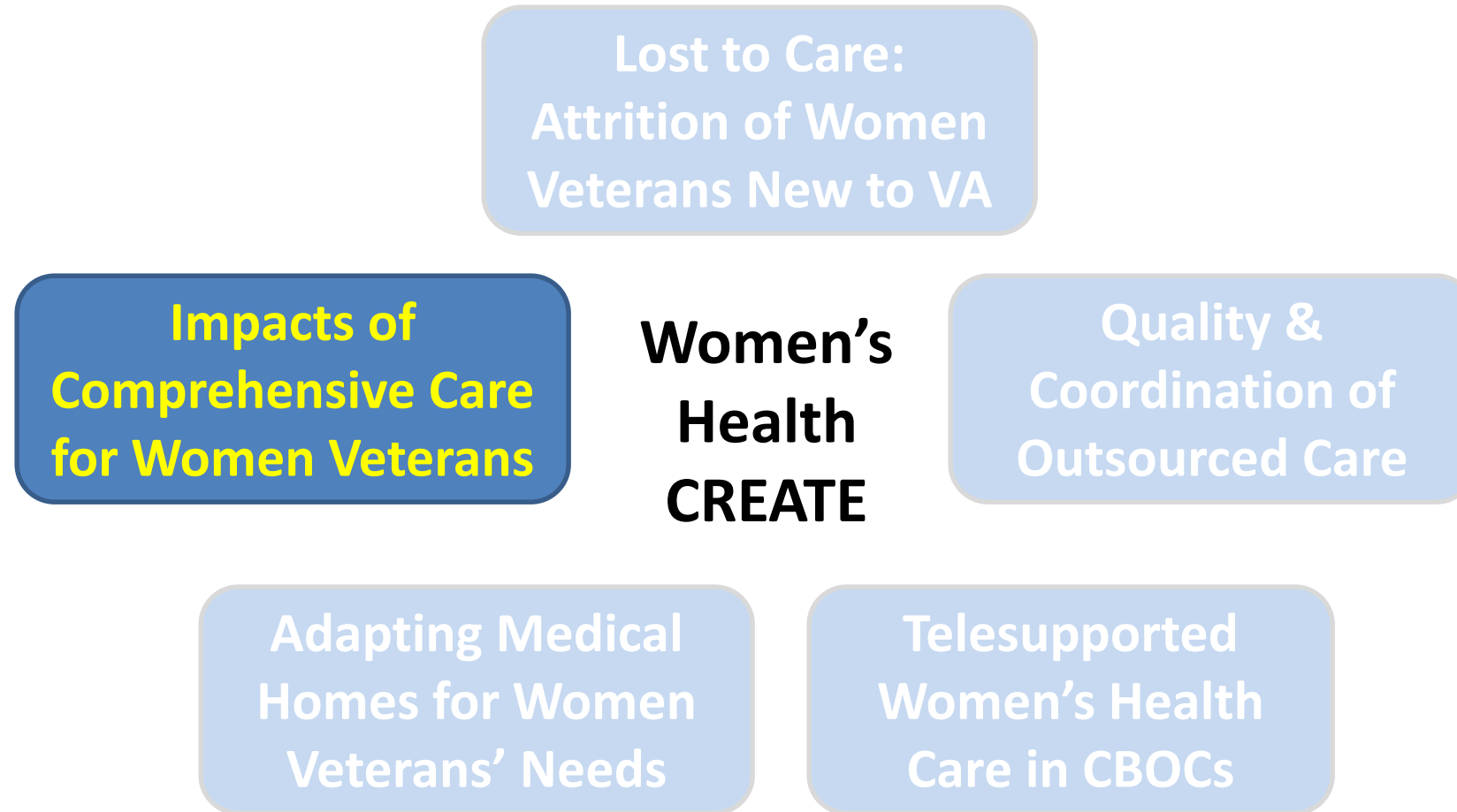


**Evidence that we have only a few opportunities to meaningfully engage women Veterans in care – better understanding determinants of attrition will help us improve comprehensiveness**



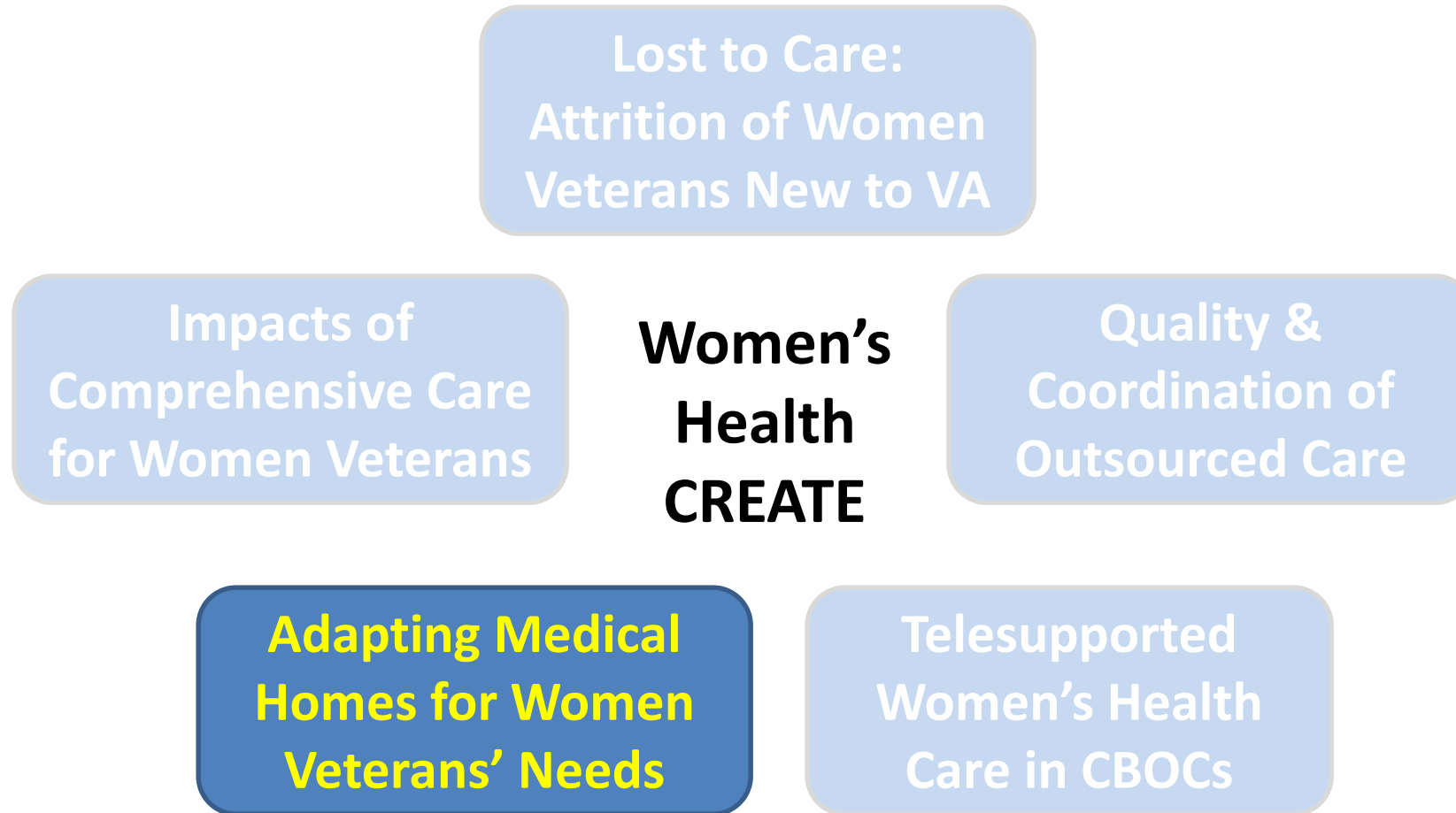
**Susan Frayne, MD, MPH &  
Alison Hamilton, PhD (PIs)**

**Women Veterans should have access to comprehensive care  
irrespective of size of VA facility – we will evaluate contributions of  
different approaches to achieving comprehensive care on quality**



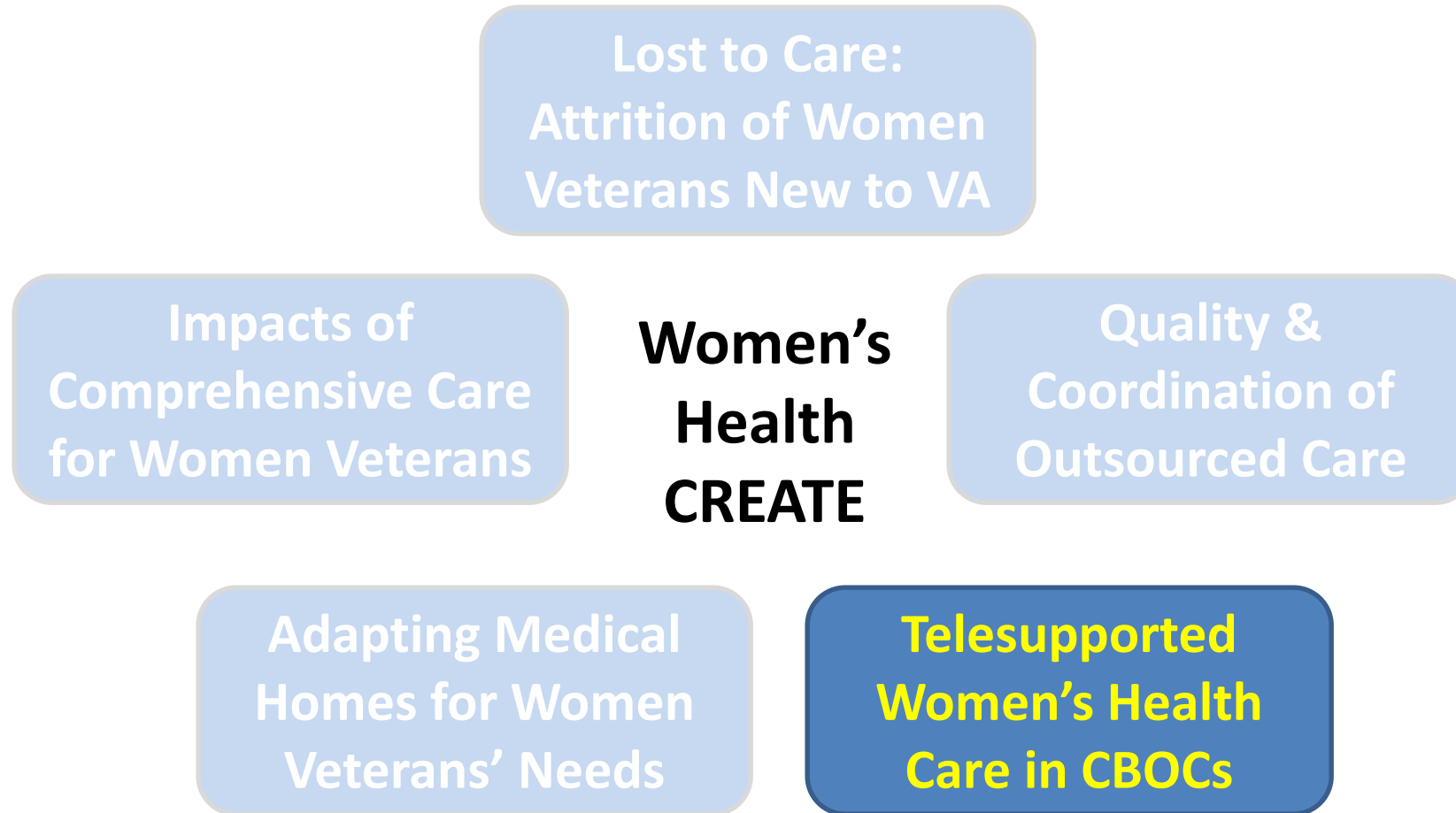
**Elizabeth Yano, PhD (PI) &  
Danielle Rose, PhD (Co-PI)**

# Testing an evidence-based quality improvement approach to tailoring medical home (PACT) implementation to meet the needs of Women Veterans in all care model types



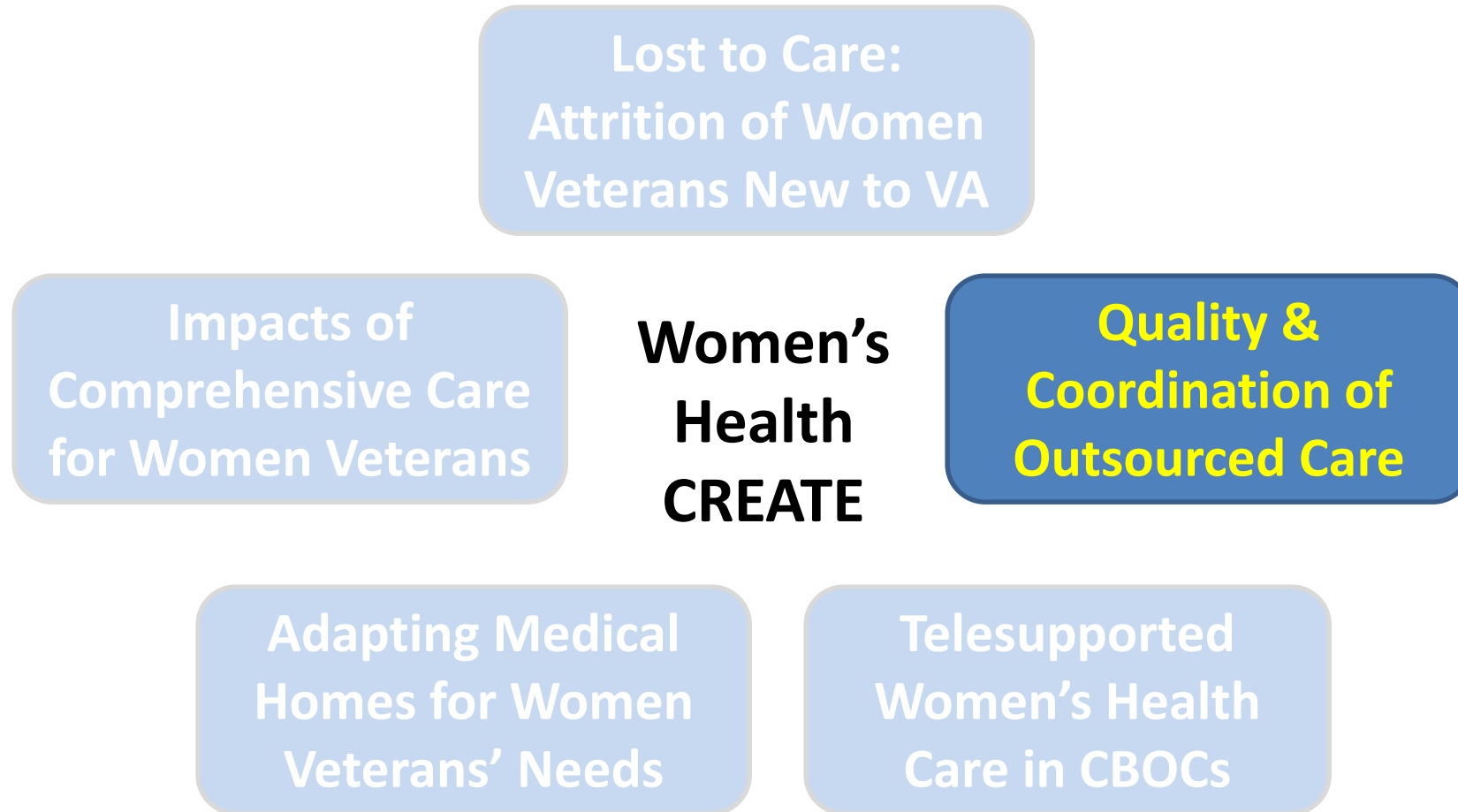
**Elizabeth Yano, PhD (PI) &  
Lisa Rubenstein, MD, MSPH (Co-PI)**

**Women Veterans increasingly obtain their primary care in distant community based outpatient clinics (CBOCs) where providers have limited access to specialized WH expertise, services, support**



**Donna Washington, MD, MPH (PI) &  
Kristina Cordasco, MD, MPH (Co-PI)**

**Women Veterans more likely to be referred to community providers to obtain same level of comprehensive care men get within VA, yet we know little about its quality or coordination**



**Lori Bastian, MD, MPH &  
Kristin Mattocks, PhD (PIs)**

# Opportunities for VA to Lead

- **Embedded MD & PhD researchers dedicated to advancing scientific knowledge and using research to transform women Veterans' care and experiences**

**Cardiovascular Disease Risk Factors Among Women Veterans at VA Medical Facilities**

Infertility Care Among OEF/OIF/OND Women Veterans in the Department of Veterans Affairs

**Aging Well Among Women Veterans Compared With Non-Veterans in the Women's Health Initiative**

Military and Mental Health Correlates of Unemployment in a National Sample of Women Veterans

**Factors Related to Attrition from VA Healthcare Use: Findings from the National Survey of Women Veterans**

**Gender Differences in Prescribing Among Veterans Diagnosed with Posttraumatic Stress Disorder**

## ABOUT PRACTICE-BASED RESEARCH NETWORKS

Lessons from Initiating the First Veterans Health Administration (VA) Women's Health Practice-based Research Network (WH-PBRN) Study

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## PRIMARY CARE AND PREVENTION

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Readying the Workforce

*Evaluation of VHA's Comprehensive Women's Health Primary Care Provider Initiative*

**The Role of Research in a Time of Rapid Change**

*Lessons From Research on Women Veterans' Health*

Care Coordination for Women Veterans  
*Bridging the Gap Between Systems of Care*

# VA Research Teams (HSR&D)

## **VA Greater Los Angeles**

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- Michelle Mengeling, PhD

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- Jennifer Giersch, PhD
- Hayden Bosworth, PhD
- Jennifer Strauss, PhD

## **VA Pittsburgh**

- Sonya Borrero, MD, MPH

**Women's Health PBRN Site Leads (60 VA facilities)**

# The Women Veteran's Cohort Study

Friends of Veterans Affairs Congressional Briefing  
Women's Health Research

Sally G. Haskell, MD

Deputy Chief Consultant, Women's Health Services

Veterans Health Administration

Department of Veterans Affairs

February 22, 2016



# The Women Veterans Cohort Study (WVCS)

## WVCS 1: 2007-2012

Cynthia Brandt, MD,MPH

Sally Haskell, MD,MS

Amy Justice MD, PhD

## WVCS 2: 2014-2018

Sally Haskell, MD,MS

Kristin Mattocks, PhD, MPH

Cynthia Brandt MD, MPH

Funded by VA Health Services Research and Development



# Background

- ▶ The participation of women in combat is historically unprecedented.
- ▶ Over 50% of women Veterans returning from Iraq and Afghanistan are enrolling for VA services.
- ▶ To meet the needs of women Veterans returning from combat VA must understand gender differences in medical/mental health outcomes and health care utilization after combat exposure.

# Women Veterans Cohort Study 1 Goals (2007-2012)

- ▶ **Phase 1 - Create an electronic database cohort of VA-enrolled Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) Veterans**
  - To evaluate sex differences in diagnosis and treatment of medical and mental health conditions after deployment
- ▶ **Phase 2 - Survey a prospective cohort of female and male OEF-OIF Veterans**
  - To validate findings of the electronic cohort study
  - To understand sex differences in military trauma exposures and post-deployment health

# Methods

- ▶ Phase 1:
  - An Electronic Roster of all OEF/OIF Veterans enrolled for VA care was merged with VA electronic medical record (EMR) data to create a national electronic database of all OEF/OIF Veterans enrolled in the VA
  
- ▶ Phase 2:
  - A survey was mailed to all women Veterans in New England and Indiana and a random sample of an equal number of men Veterans in both sites.

# Results from WVCS 1

Over 25 published papers since 2009

- Medical and Mental Health Outcomes
- Pain and Musculoskeletal Conditions
- Reproductive Health
- Posttraumatic Stress Disorder (PTSD)
- Substance Use

**Women OEF/OIF Veterans using VA were younger, more likely to be racial minority, less likely to be married, and were more highly educated than men Veterans.**

<b>Characteristic</b>	<b>% Female (n=19,520)</b>	<b>% Male (n=144,292)</b>	<b>P value</b>
<b>Age</b> mean (SD)	30 (8.8)	32 (9.7)	<.0001
<b>Race/ethnicity</b>			<.0001
White	53%	69%	
Black	30%	15%	
Hispanic	11%	10%	
Other/unknown	6%	6%	
<b>Married</b>	32%	49%	<.0001
<b>Education</b>			<.0001
>High school	30%	24%	

# In the first year after deployment women Veterans of OEF/OIF were more likely to have Depression and Musculoskeletal Disorders than men Veterans

Diagnosis	Female (n=19,520)	Male (n=144,292)	Adjusted OR
Back Problems	9.4%	10.3%	0.97
Joint Disorders	9.2%	9.5%	1.00
PTSD	8.4%	9.7%	0.95
Mild Depression	6.8%	4.1%	1.81 *
Reproductive Health Conditions	6.2%		
Musculoskeletal Disorders	4.6%	4.1%	1.22 *

# Pain and Musculoskeletal Conditions

- ▶ Because of concern for risk of musculoskeletal injury in female Veterans, we examined the prevalence of Painful Musculoskeletal Conditions in women compared to men Veterans using VA care.
- ▶ Women Veterans had more musculoskeletal conditions than men, increasing each year, resulting in a 60% higher prevalence in women compared to men in Veterans with 7 years post deployment data.
- ▶ Haskell, et al. Clinical Journal of Pain, 2011

# Pain and Musculoskeletal Conditions

- ▶ Veterans with Persistent Pain were more likely to be black, female, on active duty, enlisted, Army, have high school education or less, and have a diagnosis of mood disorders, PTSD, substance use, anxiety, Traumatic Brain Injury and overweight or obesity than those without Persistent Pain.

- ▶ Higgins, et al, Pain Medicine, 2014

- ▶ Relative to men, women Veterans reporting chronic pain reported more interpersonal trauma and military sexual trauma, but lower combat exposure.

- ▶ Driscoll et al, Pain Medicine 2015

- These findings highlight the prevalence of musculoskeletal pain in women Veterans using VA care and the need to develop strategies incorporating treatment for co-morbid mental health conditions and trauma exposures

# Pregnancy and Reproductive Health

- ▶ We examined prevalence of pregnancy (recorded in VA medical records) and the co-occurrence of pregnancy with mental health disorders in women Veterans of OEF/OIF who were seen in VA from 2002-2008.
- ▶ Women Veterans who use VA as a payer for Maternity Care benefits, had higher rates of depression, PTSD, bipolar disorder, schizophrenia, and substance use disorders than those without a pregnancy recorded in VA system.
  - Mattocks et al, J. Women's Health, 2010
  - This study underscored the need for Maternity Care Coordination for Women Veterans.

# Pregnancy and Reproductive Health

- ▶ Of over 2000 pregnancies among women Veterans between 2001-2010 5.2% had gestational diabetes and 9.6% had hypertensive disorders of pregnancy.
- ▶ Compared with women delivering in the US, women OEF/OIF Veterans using VA to pay for maternity care had a 40% higher risk of developing gestational diabetes and a 30% higher risk of developing hypertensive disorders of pregnancy.
  - Katon, et al. Journal of Women's Health, 2014
  - Healthcare providers must be aware that women Veterans may be at increased risk of pregnancy complications. (Important note: This data is based on women Veterans using VA care and may not apply to all women Veterans.)

# Post-Traumatic Stress Disorder

- ▶ In an analysis of 365 women Veterans of OEF/OIF who participated in the WVCS survey, we noted high rates of childhood trauma, and military sexual trauma (MST).
- ▶ Having active duty, childhood trauma, MST, or combat exposure increased the likelihood of developing PTSD.
- ▶ Among those with combat exposure, having MST, increased the likelihood of developing PTSD.

# Alcohol Use in OEF/OIF Veterans

- ▶ In analysis of Veterans participating in the WVCS survey, 30% of male Veterans and 16% of female Veterans screened positive for hazardous drinking.
  - For male Veterans younger age, assaultive trauma, and conflict in interpersonal relationships were associated with hazardous drinking
  - For female Veterans younger age and PTSD were associated with hazardous drinking. In further analysis of PTSD symptoms, emotional numbing was associated with hazardous drinking in women.
    - Scott et al, Drug and Alcohol Dependence, 2013
- These results underscore the need for gender tailored substance abuse treatment programs.

# Smoking Status

- ▶ In an analysis of 355,966 men Veterans and 50,988 women Veterans who had a visit to VA between 2001-2012, who were screened for smoking and the presence of pain, 37% were current smokers and 16% former smokers, 20% reported moderate pain and 14% reported severe pain.
- ▶ Being a current or a former smoker increased the likelihood of having moderate having moderate to severe pain.
- ▶ There was no gender difference in this association.
  - Volkman et al, Pain Medicine, 2015
- This study highlights an important association between smoking and pain.

# Women Veterans Cohort Study 2 (WVCS 2)

- ▶ The second phase of WVCS started in 2014 and will focus on three areas identified as being of particular importance to the health of male and female Veterans returning from deployment:

- Development of Cardiovascular Risk

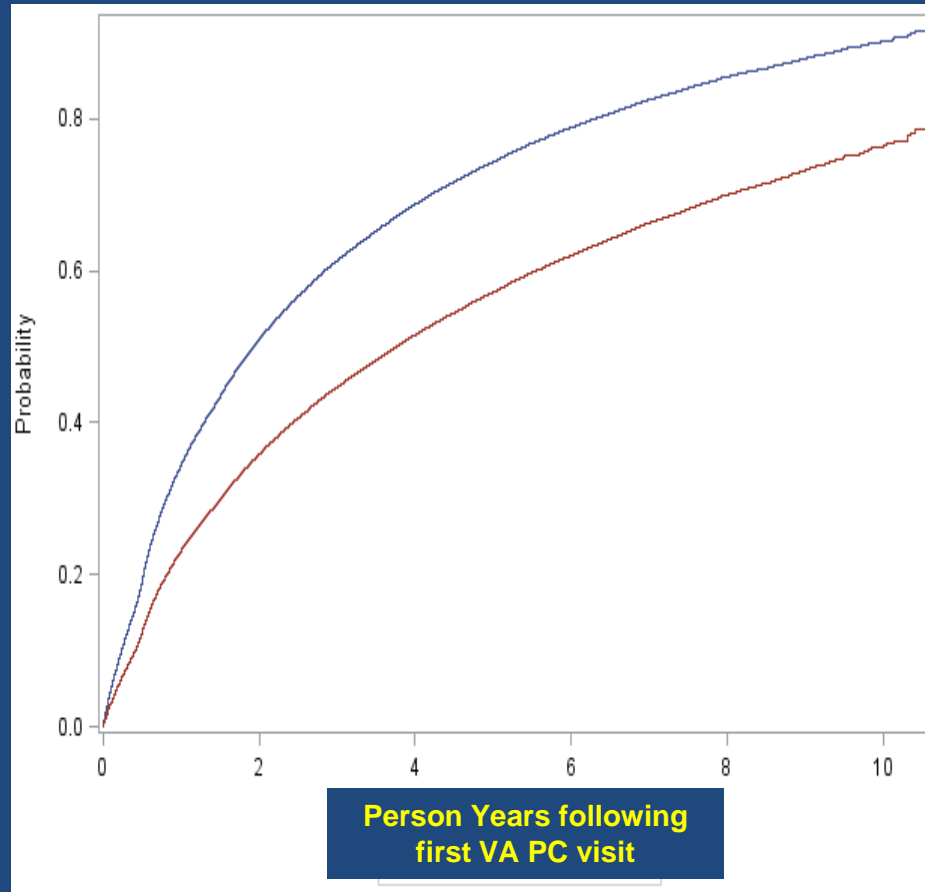
- Mental Health Conditions
  - Musculoskeletal Conditions

- ▶ The study will consist of 3 components:
- ▶ Electronic Administrative Data
- ▶ Expanded Survey
- ▶ Focus Groups and Interview

## WVCS 2 AIMS

1. To determine the pattern of disease onset and progression among women OEF/OIF and Operation New Dawn (OND) Veterans compared to men
2. To determine unique psychiatric and psychosocial moderators of disease progression for women OEF/OIF/OND Veterans
3. To determine unique care patterns for women OEF/OIF/OND Veterans
4. To determine the barriers to care that arise for women Veterans

## Cumulative Incidence for Cardiovascular Risk Factors\* in OEF/OIF/OND Veterans



\*Risk factors include high blood pressure/hypertension, obesity, dyslipidemia, diabetes, or CAD—DRAFT  
Unpublished data

# Research Team:

▶ **Special Thanks to Norman Sillicker BS, Project Coordinator**

▶ **Melissa Skanderson, MSW**

▶ **Julie Huston, BS**

▶ **Constance Carroll, MPH**

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# Co-Investigators

- |                           |                         |                                |
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| ▶ Perry Miller, MD        | J. Richard Pilsner, PhD | Kei-Hoi Cheung, PhD            |
| ▶ Rani Hoff, PhD          | J. Cobb Scott, PhD      |                                |

# Co-Investigators (cont'd)

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| ▶ Natasha Spencer, MD      | Shaina Lynch, MD     | Forrest Crawford, PhD |
| ▶ Yuli Li, PhD             | Javier Ballester, MD | Andrea Garroway, PhD  |
| ▶ Ronald George Hauser, MD | Jennifer Aucoin, MD  | Suzanne Decker, PhD   |
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# **Veterans Health Research: A Focus on Women**

**Friends of VA Medical Care and Health Research (FOVA)**

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February 22, 2016



## VA Medical and Prosthetic Research

FY 2016 Enacted	\$630.7	+\$41.7 (7.1%)
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### President's Budget

FY 2017 Research	\$598.4	-\$32 (5.1%)
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Million Veteran Program	\$65	
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TOTAL	\$663.4	
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### FOVA Recommendations

FY 2017 Research	\$660.9	+30.2 (4.8%)
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*Includes: \$15M for BRDPI (2.4%) and \$15M for new initiatives.*

MVP	\$75	
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TOTAL	\$735.9	
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Appropriations by Designated Research Areas (dollars in thousands)					
Description	2015 Actual	2016		2017 Request	2016-2017 Inc/Dec
		Budget Estimate	Current Estimate		
Acute & Traumatic Injury.....	\$20,298	\$21,313	\$21,313	\$21,313	\$0
Aging.....	\$146,856	\$154,199	\$154,199	\$150,344	(\$3,855)
Autoimmune, Allergic & Hematopoietic Disorders.....	\$27,699	\$29,084	\$29,084	\$28,357	(\$727)
Cancer.....	\$52,120	\$57,783	\$57,783	\$59,500	\$1,717
CNS Injury & Associated Disorders.....	\$89,041	\$93,493	\$93,493	\$91,156	(\$2,337)
Degenerative Diseases of Bones & Joints.....	\$30,242	\$31,754	\$31,754	\$30,960	(\$794)
Dementia & Neuronal Degeneration.....	\$24,838	\$26,080	\$26,080	\$25,428	(\$652)
Diabetes & Major Complications.....	\$35,009	\$36,759	\$36,759	\$35,840	(\$919)
Digestive Diseases.....	\$20,680	\$21,714	\$21,714	\$21,171	(\$543)
Emerging Pathogens/Bio-Terrorism.....	\$959	\$1,007	\$1,007	\$982	(\$25)
Gulf War Veterans Illness.....	\$10,500	\$15,000	\$12,500	\$12,188	(\$313)
Health Systems.....	\$62,467	\$72,667	\$72,667	\$70,850	(\$1,817)
Heart Disease/Cardiovascular Health.....	\$62,322	\$65,438	\$65,438	\$63,802	(\$1,636)
Infectious Diseases.....	\$33,042	\$34,694	\$34,694	\$33,827	(\$867)
Kidney Disorders.....	\$20,914	\$21,960	\$21,960	\$21,411	(\$549)
Lung Disorders.....	\$26,990	\$28,340	\$28,340	\$27,632	(\$709)
Mental Illness.....	\$110,310	\$115,826	\$115,826	\$115,826	\$0
Military Occupations & Environ. Exposures.....	\$14,045	\$16,633	\$16,633	\$16,217	(\$416)
Other Chronic Diseases.....	\$4,883	\$5,127	\$5,127	\$4,999	(\$128)
Prosthetics.....	\$15,075	\$15,829	\$15,829	\$15,433	(\$396)
Sensory Loss.....	\$17,085	\$17,939	\$17,939	\$17,491	(\$448)
Special Populations.....	\$19,588	\$20,567	\$20,567	\$20,053	(\$514)
Substance Abuse.....	\$29,405	\$30,875	\$30,875	\$30,103	(\$772)



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