

# A Systematic Review of the Literature on Women Veterans' Health

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and

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December 14, 2010



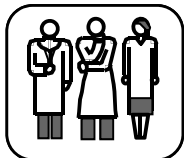
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# Background: Women in VA

## *Women*

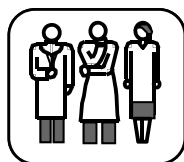
- Play an increasing role in military and veteran activities representing:
  - 20% of new recruits
  - 17% of reserve and guard forces
  - 15% of active duty forces
- Represent one of the fastest growing groups of new VA healthcare users



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# Why Do A Systematic Review?

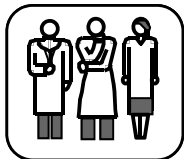
- Women's military experiences & responses to their experiences are often unknown or distinct from men
- The impact of those experiences on health status and healthcare needs is important for care delivery
- Systematic reviews of research evidence can inform health care decisions made by managers and policymakers
- 5 years ago, 1st ever synthesis of the scientific literature on women veterans' health was conducted (Goldzweig et al 2006)
- Since then, rapid expansion of WH research occurred in VA



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# Objectives

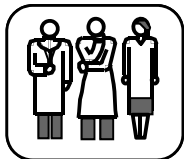
- To systematically assess the recent literature on women veterans' health and categorize the literature into key themes
- To identify gaps in the recent literature to be addressed by future research and policy efforts



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# Methods

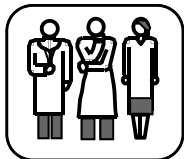
- Searched multiple scientific databases
  - MEDLINE, PsychINFO, World Cat
  - search terms *women* and *veterans*
- Expert VA and DOD Contacts



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# Methods

- Title screen of all articles by team consensus
- Full screen of articles by 2 WH physicians using set criteria
- Each article summarized using standard abstract form and categorized into evidence tables



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# Methods: Screening Criteria

*Study meets criterion A, plus B, or C, or D:*

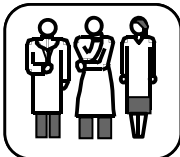
A) Study relates to US veterans or military



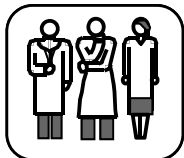
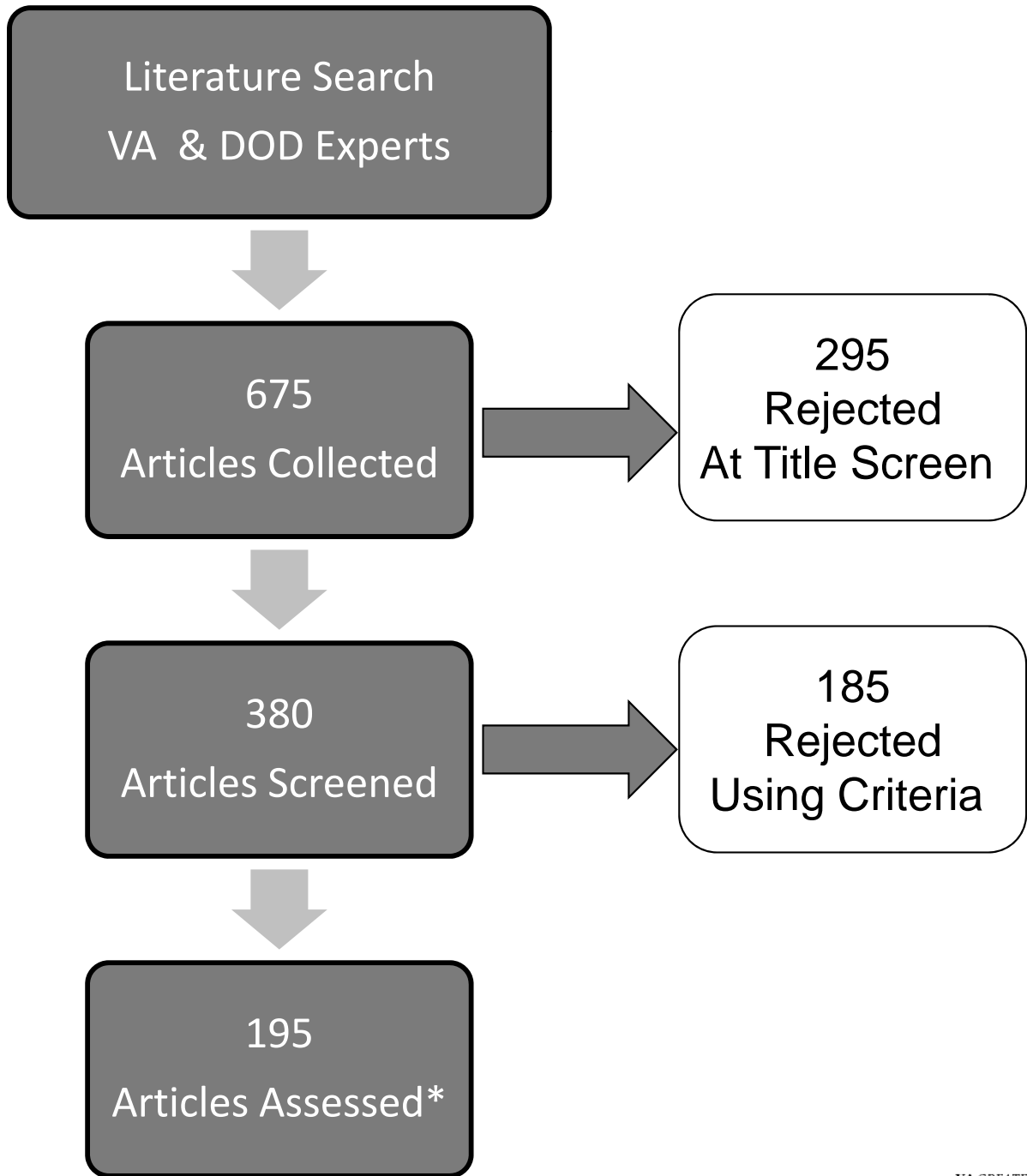
B) Study includes women veterans, compares men and women, or analyzes women separately

C) Study involves active duty military females and involves a health condition or functional status that requires medical intervention

D) Topic is relevant to VA healthcare or how VA care is delivered to women



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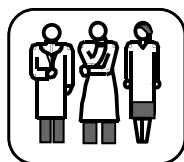
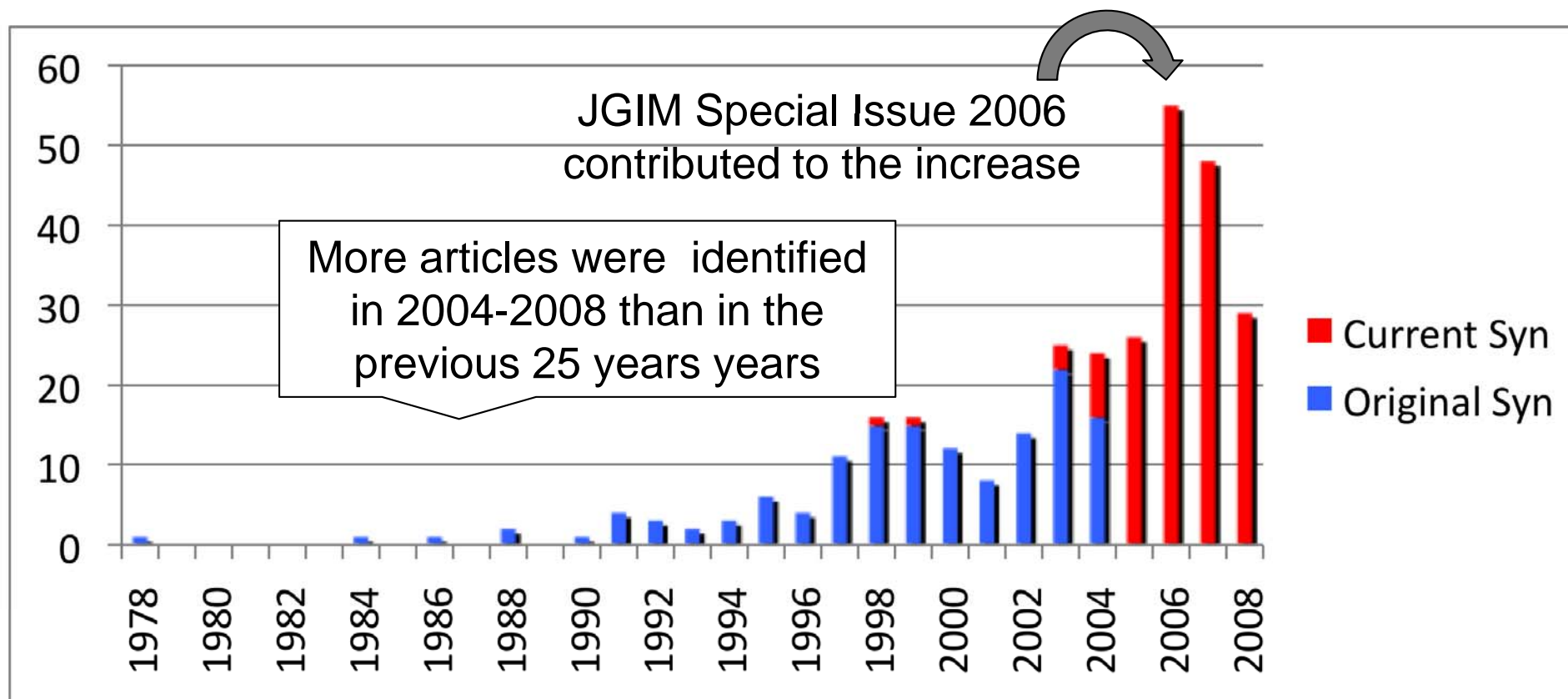


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*\*This count does not include Goldzweig et al.*



# Acceleration of Women Veteran Literature over Time

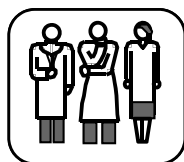


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# Women Veteran Literature Characteristics & VA Funding

Articles Reviewed	1978-2004 (N=182)	2004-2008 (N=196)
<b>Type of Study</b>		
- Observational	147(81%)	169(86%)
- Descriptive	22(12%)	13(7%)
- Qualitative	7(4%)	8(4%)
- Systematic Review	4(2%)	1(1%)
- Experimental	2(1%)	5(3%)
<b>Type of Funding*</b>		
- VA	82(45%)	114(58%)
-DOD	n/a	33(17%)

\*not mutually exclusive

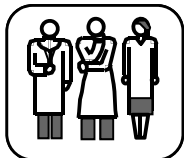


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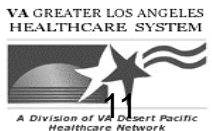
# Key Areas in Published Women Veteran Literature

Category	N*
Deployment and Post Deployment Health	33
Organizational Research	7
Quality of Care and Patient Satisfaction	54
Access to Care and Utilization	48
Psychiatric Conditions	85

\*Not mutually exclusive

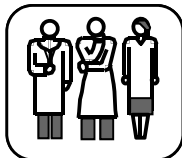


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# Results: Deployment Health

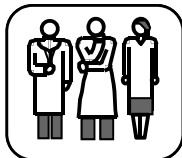
Subject Area	Key Findings
Reproductive Health	Reproductive problems were common among deployed OEF/OIF women
	Frequent issues included pregnancy, UTI, menstrual or pap smear abnormalities
	Pregnant women with deployed partners or on active duty or with >1 child had higher stress levels



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# Results: Deployment Health

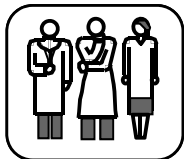
Subject Area	Key Findings:
Mental Health	High rates of +PTSD screens and MH symptoms occur
	Compared to men, women returning from duty, are more likely to screen positive
	Assault history prior to combat doubled rate of new onset PTSD symptoms in women and men
	Multiple deployments contribute to + MH symptoms
	Psychiatric evacuations from combat theatre were common; women were overrepresented
	Social support appeared protective for women's MH



# Results: Organizational Research

## Key Findings:

- Presence of a gynecologist in VA or a separate gynecology or women's clinic is associated with
  - IUD availability
  - advanced gynecologic procedures
  - emergency gynecology services after hours
- Organizational culture and leadership had positive effect
  - Practice environment for MST\* providers
  - Presence of separate WH clinic in primary care



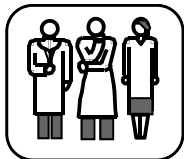
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\*MST – Military Sexual Trauma

# Results: Quality of Care

## Key Findings:

- Satisfaction - outpatient satisfaction impacted by access to female providers, gynecology care, women's clinic
- Quality of care measures are similar to men, but are low for LDL control, HTN control, and immunization
- CV disorders more common among women veterans compared to civilian women
- Urological problems are common and hormonal contraception needs are high in military women

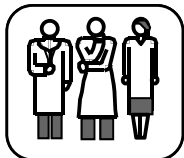


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# Results: Quality of Care cont.

## Key Findings:

- Pharmacy - inappropriate prescriptions are equal or lower in VA vs. non-VA, but women in VA are more likely to receive such meds
- Surgery - surgical morbidity and mortality outcomes are equal or lower in VA vs. non-VA for women
- CV outcomes - limited data on how to improve care for women in VA

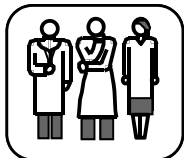




# Results: Access & Utilization

## Key Findings:

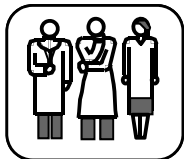
- Limited access or use was associated knowledge gaps about VA care and incorrect information
- Dual use (VA & non-VA care) was lower
  - when gynecology care or women’s clinics were present
  - among Medicare eligible veteran women vs. men
- Women with positive screens for MH disorders, trauma, or other diagnoses tend to use more healthcare services than women without positive MH screens or men veterans



# Results: Psychiatric Conditions

## Key Findings:

- Support strong association between PTSD and MST
- Negative health effects from both conditions for both women and men
- Women with trauma history report anxiety for invasive exams and male providers

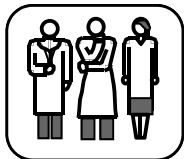


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# Results: Psychiatric Conditions cont.

## Key Findings:

- PTSD related stress impacts veteran families including marriage, parenting, and other adjustments
- A few studies show social support may be a factor in resiliency and quality of life among
  - Women veterans
  - Children of women veterans
  - While in military, pregnant, or after they transition home

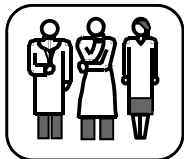


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# Building Knowledge....Prior Gaps

- Research gaps indicated limited knowledge of
  - Prevalence of chronic diseases
  - Preferences & self reported needs
  - Utilization patterns within/outside VA
  - Transitions from military to veteran status
  - Quality of care women vets receive, and methods showing how to improve quality

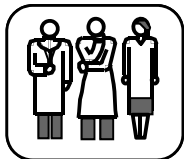
Source: Goldzweig et al 2006



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# Building Knowledge...Advances

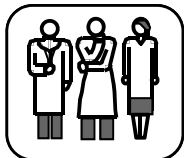
- Treatment outcomes in PTSD:
  - Schnurr (2007) study is first multi-centered, randomized cooperative trial focused on outcomes in women
  - Prolonged exposure therapy gave better outcomes than standard care
  - Showed clinical outcomes studies on women veterans are feasible
- Access to Care
  - We know much more about barriers, perceptions, and utilization of VA care than ever before for building a foundation to interventions
- Organizational Determinants of Quality
  - We understand more about how care is organized, features important to women, and impact of strong leadership for support of care delivery



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# Ongoing Gaps...Future VA Research

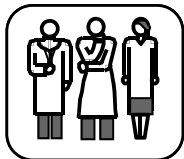
- Clinical and intervention outcome studies
  - for chronic mental health & physical conditions
- Health issues for women across the life span (pregnancy, aging)
- General care or gender differences for veterans with polytrauma or traumatic brain injury
- Challenges or strategies for co-managing mental health and general preventive health
- Transitions from military to civilian life
- Impact of military duty, transitions and health outcomes on military/veteran families



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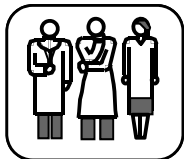
# Limitations

- Possible missing articles on women veterans
- Search terms may not have been specific for research on a population subgroup
- Publication bias



# Summary

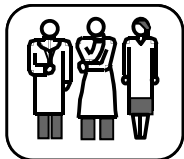
- Number of articles in current review (5 yrs) surpassed number retrieved from prior 25 yrs
- Growth of studies likely due to increased VA support
- Most research remains observational, *but*
  - Documents clear shift from descriptive to analytical focus in access, utilization, quality and post-deployment health
  - Demonstrates 5 clinical trials
  - Provides an evidence base for detecting barriers, defining care delivery, and to begin to identify best practices





# Implications

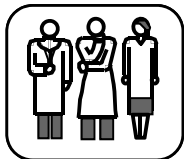
- Areas more fully developed in women veterans' research should serve as a foundation for future intervention and implementation research in VA
- Substantial knowledge on women veterans' mental health issues should expand
  - To include studies on treatment modalities and outcomes
  - To explore ways in which veteran, provider or practice settings can incorporate evidenced based treatments & evaluate outcomes



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# Online Database

- Tool for researchers and clinicians
- Companion to the written report
- Structured abstracts in searchable format
- Currently updated through Bean-Mayberry et al. report
- Goldzweig et al. to be added
- Regular update searches to keep database current




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# Online Database

[http://web3.rand.org/women\\_vets/](http://web3.rand.org/women_vets/)


Women Veterans' Health Research Project

Search Database 

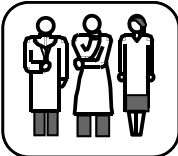


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Search Database  
Project Background

West Los Angeles VA

## Women Veterans Health *Systematic Review of Research Literature*

Search Database 

Welcome to the Women Veterans Health Research Database Project. This website contains a database of published literature about the health care of women veterans of the US Armed Forces, which is searchable by the user in a variety of ways. It also contains information about how this database was created. This website and database were developed under a contract from the US Department of Veteran's Affairs, Veteran's Health Administration.



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# Online Database

[http://web3.rand.org/women\\_vets/](http://web3.rand.org/women_vets/)

Women Veterans' Health Research Project

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## Search Database

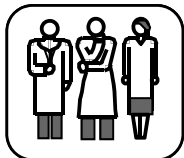
This tool is designed to find publications from a literature search on the topic of women veterans' health. You can search according to the following criteria:

- Study Design
- Funder
- Research Setting
- Period of service
- Topics
- Conditions

Please make a selection below for any criteria you wish to use to help narrow your search. [More information about how to search effectively.](#)

Clear Selections

Search Now >>

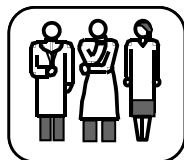


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[http://web3.rand.org/women\\_vets/](http://web3.rand.org/women_vets/)

<p><b>Study design</b></p> <p><input type="checkbox"/> Descriptive</p> <p><input type="checkbox"/> Observational</p> <p><input type="checkbox"/> Experimental</p> <p><input type="checkbox"/> Qualitative</p>	<p><b>Topics</b></p> <p><input type="checkbox"/> Clinical research</p> <p><input type="checkbox"/> Environmental and occupational exposures, post deployment health</p> <p><input type="checkbox"/> Non-military exposures</p> <p><input type="checkbox"/> Health behaviors, promotion, prevention, and epidemiology</p> <p><b>Health Services Research:</b></p> <p><input type="checkbox"/> Education/ training (providers)</p> <p><input type="checkbox"/> Health status &amp; Health rel. qual. of life</p> <p><input type="checkbox"/> Organizational research</p> <p><input type="checkbox"/> Provider behavior</p> <p><input type="checkbox"/> Quality of care + Patient Satisfaction</p> <p><input type="checkbox"/> Utilization and access</p> <p><input type="checkbox"/> Mortality</p> <p><input type="checkbox"/> Tools (research or clinical)</p> <p><input type="checkbox"/> Vulnerable populations (e.g. homeless)</p>	<p><b>Conditions</b></p> <p><b>Chronic conditions:</b></p> <p><input type="checkbox"/> Bone, joint, rheumatic</p> <p><input type="checkbox"/> All vascular disease</p> <p><input type="checkbox"/> Endocrinologic</p> <p><input type="checkbox"/> Gastrointestinal</p> <p><input type="checkbox"/> Neurological (includes stroke)</p> <p><input type="checkbox"/> Obesity</p> <p><input type="checkbox"/> Thyroid</p> <p><input type="checkbox"/> Urologic</p> <p><input type="checkbox"/> Multiple medical conditions</p> <p><input type="checkbox"/> Environmental exposures</p> <p><b>Gender Specific and Reproductive Care:</b></p> <p><input type="checkbox"/> Benign disease of the female reproductive tract</p>
<p><b>Period of Service</b></p> <p><input type="checkbox"/> OEF/OIF</p> <p><input type="checkbox"/> Vietnam</p> <p><input type="checkbox"/> Korea</p> <p><input type="checkbox"/> World War II</p>		



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[http://web3.rand.org/women\\_vets/](http://web3.rand.org/women_vets/)

Women Veterans' Health Research Project

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## Search Results

**Your search identified 8 citations.** Click on the blue linked titles below to view a summary of hypothesis-testing articles (non-hypothesis-testing articles, listed in grey, do not have article summaries).

[< Go back](#)

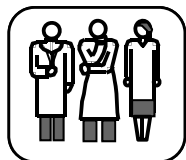
Bean-Mayberry, B. A., et al.. Federally Funded Comprehensive Women's Health Centers: Leading Innovation in Women's Healthcare Delivery. *Journal of women's health*, 2007:1281-1290.

Bean-Mayberry, B. A., et al.. Organizational characteristics associated with the availability of women's health clinics for primary care in the Veterans Health Administration. *Military medicine*, 2007:824-8.

Bean-Mayberry, B. A., et al.. Organizational characteristics associated with the availability of women's health clinics for primary care in the Veterans Health Administration. *Mil med*, 2007:824-8.

Cope, J. R., et al.. Determinants of contraceptive availability at medical facilities in the Department of Veterans Affairs. *J gen intern med*, 2006:S33-9.

Goldzweig, C. L., et al.. The State of Women Veterans' Health Research. *Journal of general internal medicine*, 2006:S82-S92.



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## Article Summary

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You selected the following article:

**Determinants of contraceptive availability at medical facilities in the Department of Veterans Affairs in the *J Gen Intern Med*, 2006, vol 21 Suppl 3, pp S33-9**

*Cope, J. R., et al..*

**Women's health topic areas:** Organizational research

**Study Design Category:** Observational

**Period of Service:** Not specified

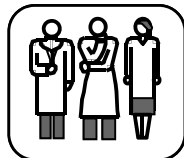
**Non patient sample:** 126

**Study setting:** National

**Year(s) of study or sampling timeframe:** Fiscal Year 2000

### Summary:

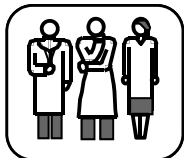
- **Purpose of Study:** To describe the variation in provision of hormonal and intrauterine contraception among Veterans Affairs (VA) facilities.
- **Outcomes Reported:** The provision of 2 contraceptive services: 1) prescription and management of hormonal contraception; and 2) IUD placement.
- **Study design/methods:**
- **Study population:** All Veteran Affairs (VA) hospital-based and affiliated community-based outpatient clinics delivering services to at least 400 unique women during fiscal year 2000.
- **Women-focused or women as subset population:** Yes



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# VA Women's Health Links

- VA Women's Health Systematic Review  
<http://www.hsrd.research.va.gov/publications/esp/womens-health.pdf>
- VA Women's Health Database  
[http://www.hsrd.research.va.gov/for\\_researchers/womens\\_health/search.cfm](http://www.hsrd.research.va.gov/for_researchers/womens_health/search.cfm)
- VA Evidence Synthesis Program  
<http://www.hsrd.research.va.gov/publications/esp/>

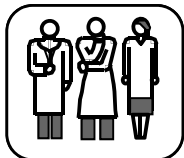


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# WH Synthesis Team

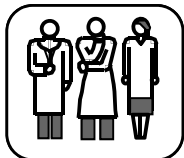
- Fatma Batuman MD
- Bevanne Bean-Mayberry MD, MHS
- Caroline Goldzweig MD, MSPH
- Christine Huang MD
- Isomi Miake-Lye BA
- Paul Shekelle MD, PhD
- Donna Washington MD, MPH
- Elizabeth Yano PhD, MSPH



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# Thank you

- VA Greater Los Angeles Evidence Synthesis Program & Southern California/RAND Evidence-based Practice Center
- VA Greater Los Angeles HSR&D Center Staff
  - For assistance with standardized abstracts
- VA Health Services Research & Development Service, Washington, DC
- Women Veterans Health Strategic Healthcare Group (WVHSHG), Washington, DC
- VA Center for Information Dissemination and Education Resources (CIDER)
- The Upperman & Bean-Mayberry Family



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