

Women Veterans' Reproductive Health Research Across the Life Cycle: from pregnancy to menopause



The views expressed in this presentation are those of the author and do not necessarily reflect the position or policy of the Department of Veterans Affairs

Jodie Katon, PhD, MS

VA Health Services Research & Development

Career Development Awardee

September 13, 2017



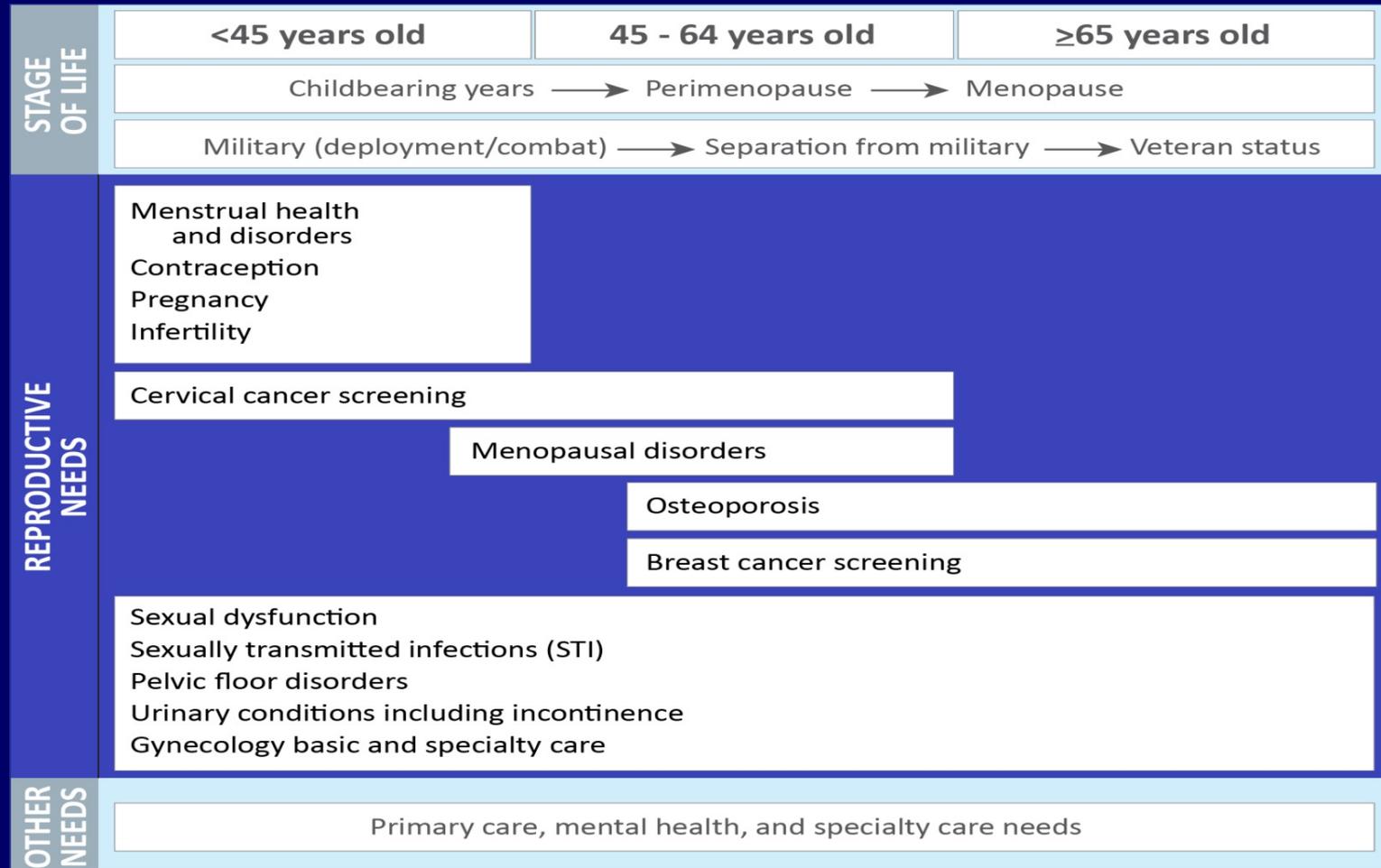
Poll Question #1

Which of the following are true for you? (mark all that apply)

- ❖ I provide healthcare for women Veterans
- ❖ I conduct women Veterans research
- ❖ I am a student studying reproductive health
- ❖ I am a woman Veteran
- ❖ My spouse/partner/family member is a woman Veteran



Women Veterans: Reproductive health across the life cycle



Zephyrin, L. C., et al. (2014). "Strategies for transforming reproductive healthcare delivery in an integrated healthcare system: a national model with system wide implications." *Curr Opin Obstet Gynecol* 26(6): 503-510.



Growing Support for Women Veterans' Reproductive Health Research: 2010-11

Pregnancy and Mental Health Among Women Veterans Returning from Iraq and Afghanistan

Kristin M. Mattocks, Ph.D.^{1,2} Melissa Skanderson, M.A.^{1,2} Joseph L. Goulet, Ph.D.^{1,2}
Cynthia Brandt, M.D.^{1,3} Julie Womack, C.N.M., Ph.D.² Erin Krebs, M.D.⁴ Rani Desai, Ph.D.^{2,5}
Amy Justice, M.D., Ph.D.^{1,2} Elizabeth Yano, Ph.D.⁶ and Sally Haskell, M.D.^{1,2}



Dr. Laurie Zephyrin is VA's new (and first ever) National Director for Reproductive Health.

Conference proceedings

Using Research to Transform Care for Women Veterans: Advancing the Research Agenda and Enhancing Research-Clinical Partnerships

Elizabeth M. Yano, PhD, MSPH^{a,b,c,d,*}, Lori A. Bastian, MD, MPH^{d,e,f},
Bevanne Bean-Mayberry, MD, MHS^{a,d,g,h}, Seth Eisen, MD, MScⁱ, Susan Frayne, MD, MPH^{d,j,k},
Patricia Hayes, PhD^l, Ruth Klap, PhD^{a,b}, Linda Lipson, MAⁱ, Kristin Mattocks, PhD^{m,n},
Geraldine McGlynn, MEd^o, Anne Sadler, PhD^{p,q}, Paula Schnurr, PhD^{r,s},
Donna L. Washington, MD, MPH^{a,h,t}



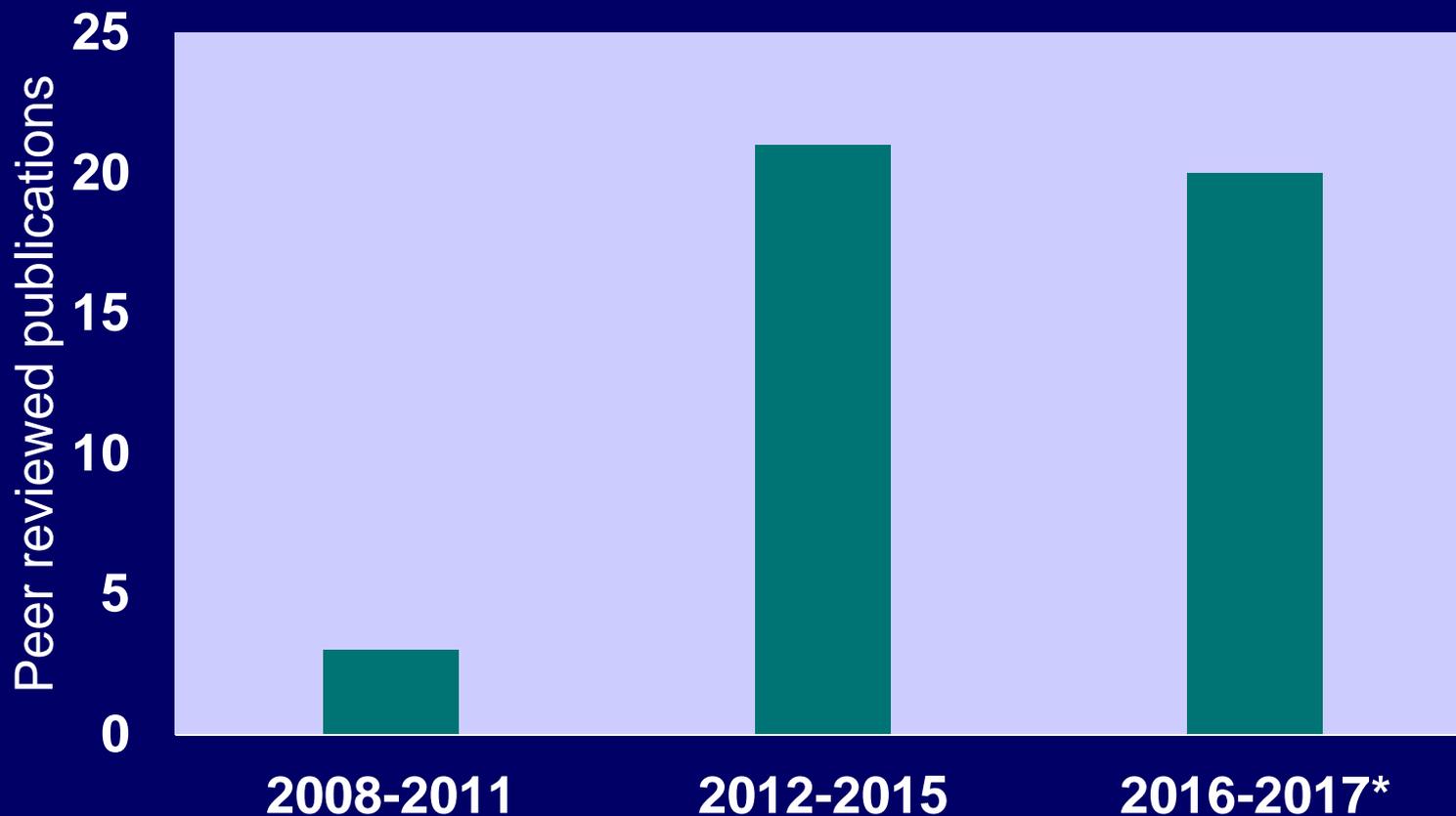
Identified Research Priorities: Reproductive health

- Determine reproductive health needs of women Veterans
- Understand impacts of military exposure on pregnancy outcomes
- Track reproductive health care needs of military women and women Veterans across the lifespan
- Investigate best models of specialty reproductive care
- Assess costs of reproductive health services among women Veterans
- Evaluate VA implementation of the new pregnancy and newborn care legislation
- Evaluate workforce development and integration
- Examine impacts of first experiences with reproductive health services
- Examine relationships between reproductive health and mental health
- Evaluate variations in screening for sexually transmitted diseases
- Evaluate impacts of potential reversal of “Don’t Ask Don’t Tell” policies on VA care
- Study needs and level of demand for care among transgendered Veterans

Yano, E. M., et al. (2011). "Using research to transform care for women veterans: advancing the research agenda and enhancing research clinical partnerships." *Womens Health Issues* 21(4 Suppl): S73-83.



Women Veterans' Reproductive Health Research: The growing literature



*Up to 8/2017

Evidence Map: Women Veterans' Health Research Literature



Reproductive Health Needs of Women Veterans using VA Healthcare

Age Group			
	18-44 years old	45-64 years old	≥65 years old
1	Menstrual disorders and endometriosis	Menopausal disorders	Osteoporosis
2	Other female reproductive organ conditions	Urinary conditions	Urinary conditions
3	STI and vaginitis	Other female reproductive organ conditions	Menopausal disorders
4	Urinary conditions	Benign breast conditions	Breast cancer
5	Pregnancy-related	STI and vaginitis	Benign breast conditions <i>and</i> other female reproductive organ conditions

Katon, J. G., et al. (2015). "Reproductive Health Diagnoses of Women Veterans Using Department of Veterans Affairs Health Care." Med Care **53 Suppl 4 Suppl 1**: S63 S67.



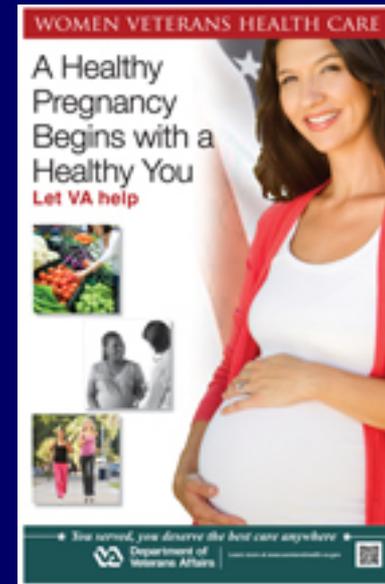
Pregnancy, Deployment, and VA Maternity Care



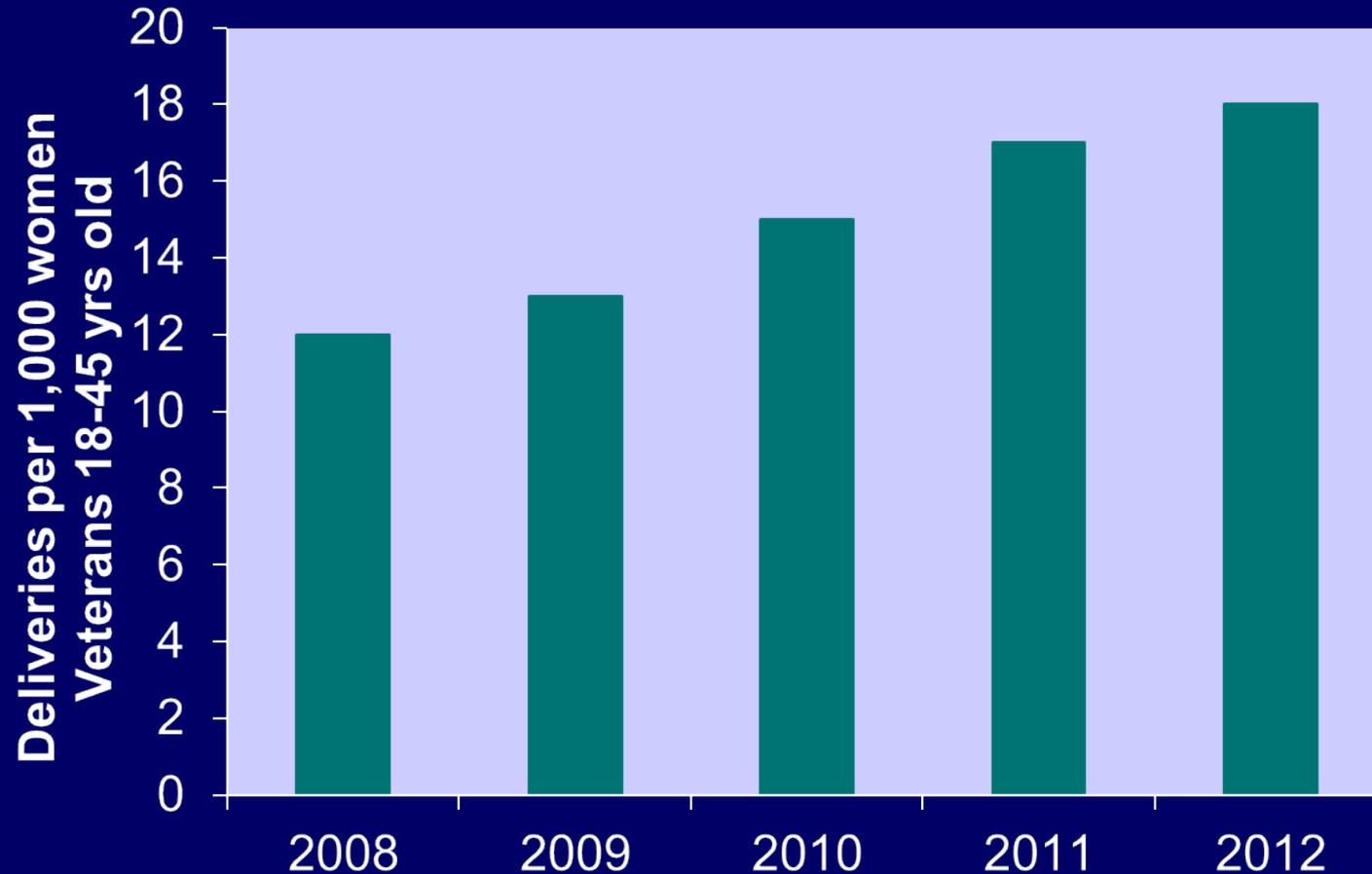
VA Maternity Care: A timeline

- ❖ **1996:** maternity benefits added to VHA medical benefits package
 - » includes prenatal care, labor and delivery, and postpartum care
- ❖ **2010:** Public Law 111-163 added care for newborn for first 7 days of life
- ❖ **2012:** Maternity Care Coordination Policy

Nearly all care purchased from the community



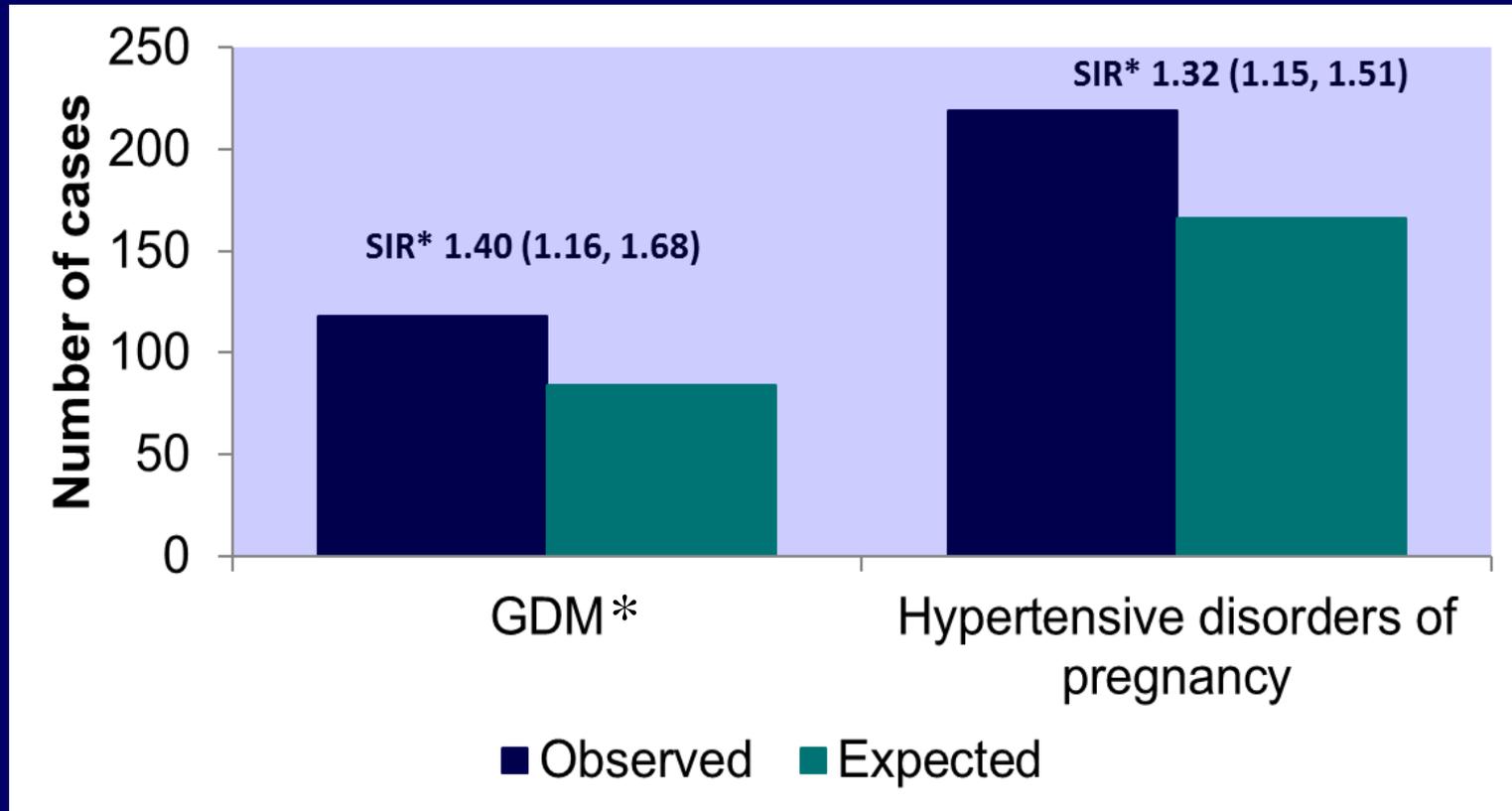
VA Maternity Care: Increasing demand



Mattocks, K. M., et al. (2014). "Five year Trends in Women Veterans' Use of VA Maternity Benefits, 2008 2012." *Womens Health Issues* **24**(1): e37 42.



Pregnancy Complications: OEF/OIF Veterans using VA maternity care



*GDM = gestational diabetes, SIR = standardized incidence ratio, standardized by age & year

Katon, J., et al. (2014). "Gestational diabetes and hypertensive disorders of pregnancy among women veterans deployed in service of operations in afghanistan and iraq." *J Womens Health (Larchmt)* **23**(10): 792-800.



Could deployment affect pregnancy outcomes?



OMB Number 2900-0722
Expiration date: 01/31/2012
Estimated burden: 30-45 minutes

National Health Study for a New Generation of U.S. Veterans

Questionnaire

Sponsored by
U.S. Department of Veterans Affairs



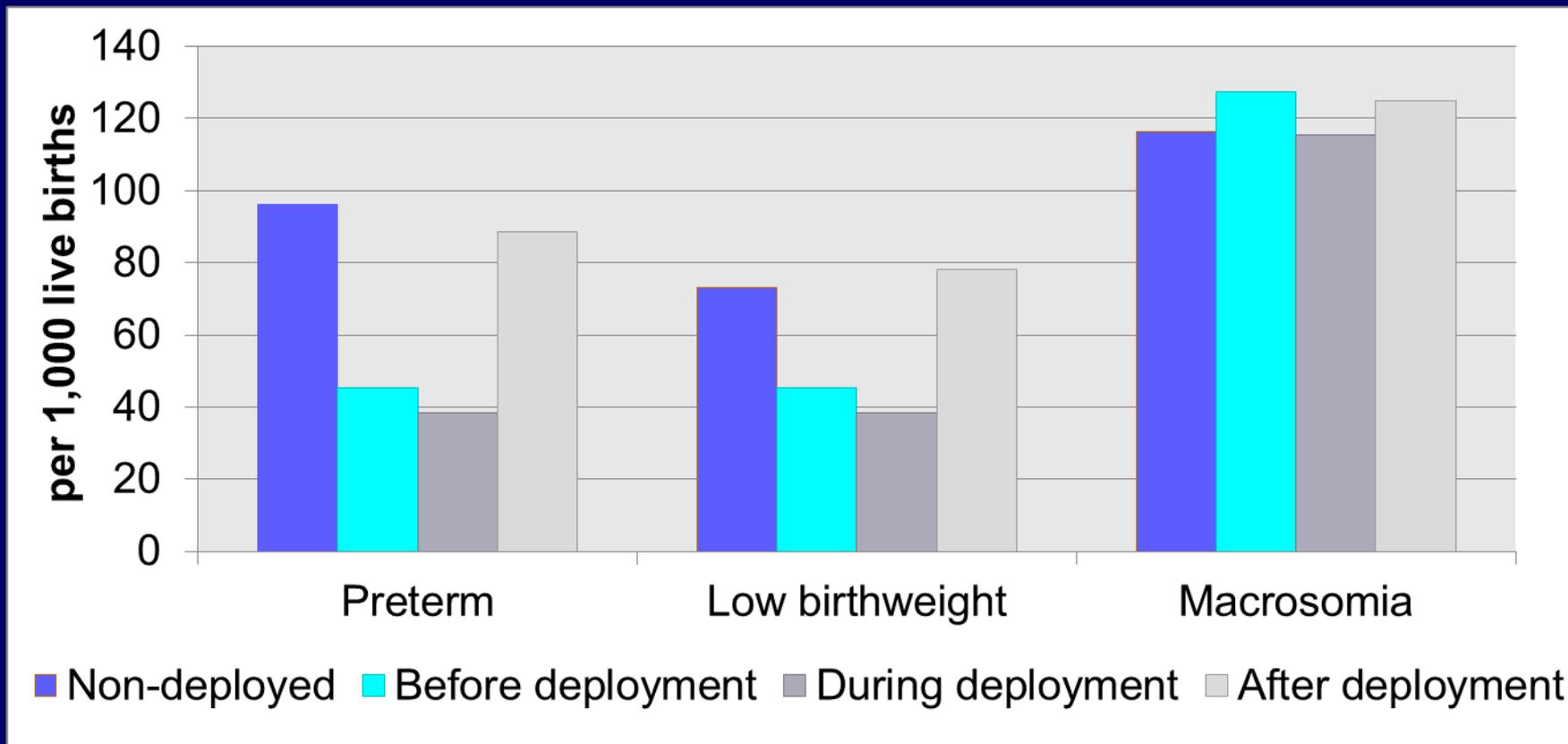
6 DIGIT BARCODE

PRIVACY ACT STATEMENT
The information requested on this questionnaire is solicited under authority of 38 U.S.C. Section 7303. It is being collected to assist VA in learning more about the health of recent veterans and will help VA to provide better medical care. The information you supply will be confidential and protected by the provisions of the Privacy Act of 1974 (5 U.S.C. 552a) and specifically the VA system of records entitled 44VA12, "Veteran, Patient, Employee and Volunteer Research and Development Project Records - VA". Release of the information may only be made with your consent or as identified in a "routine use" of the system of records. Routine uses include releases of statistical data and non-identifying data for research and associated administrative purposes. Disclosure is voluntary; failure to furnish the requested information will have no adverse effect on any VA benefit to which you may be entitled.

PAPERWORK REDUCTION ACT INFORMATION: This information is collected in accordance with the clearance requirements of section 3507 of the Paperwork Reduction Act of 1995. Accordingly, VA may not conduct or sponsor, and you are not required to respond to, a collection of information unless it displays a valid OMB control number. VA anticipates that the time expended by all individuals who complete this questionnaire will average 30-45 minutes. This includes the time it will take to read instructions, gather the necessary facts, and fill out the questionnaire.



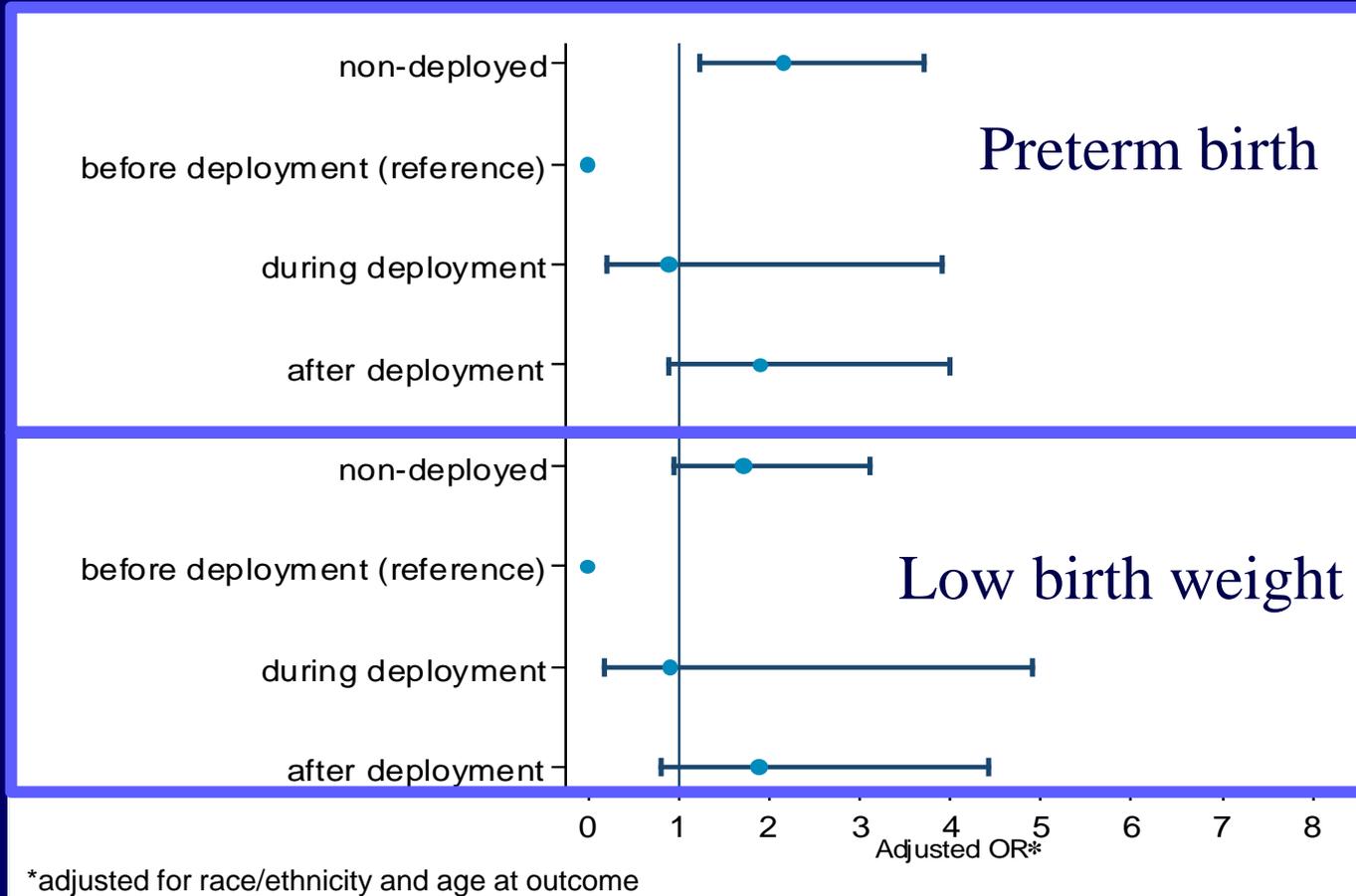
Results: 2,276 Live births (1,571 non-deployers, 705 deployers)



Katon, J., et al. (2017). "Deployment and Adverse Pregnancy Outcomes: Primary Findings and Methodological Considerations." *Matern Child Health J* 21(2): 376-386.



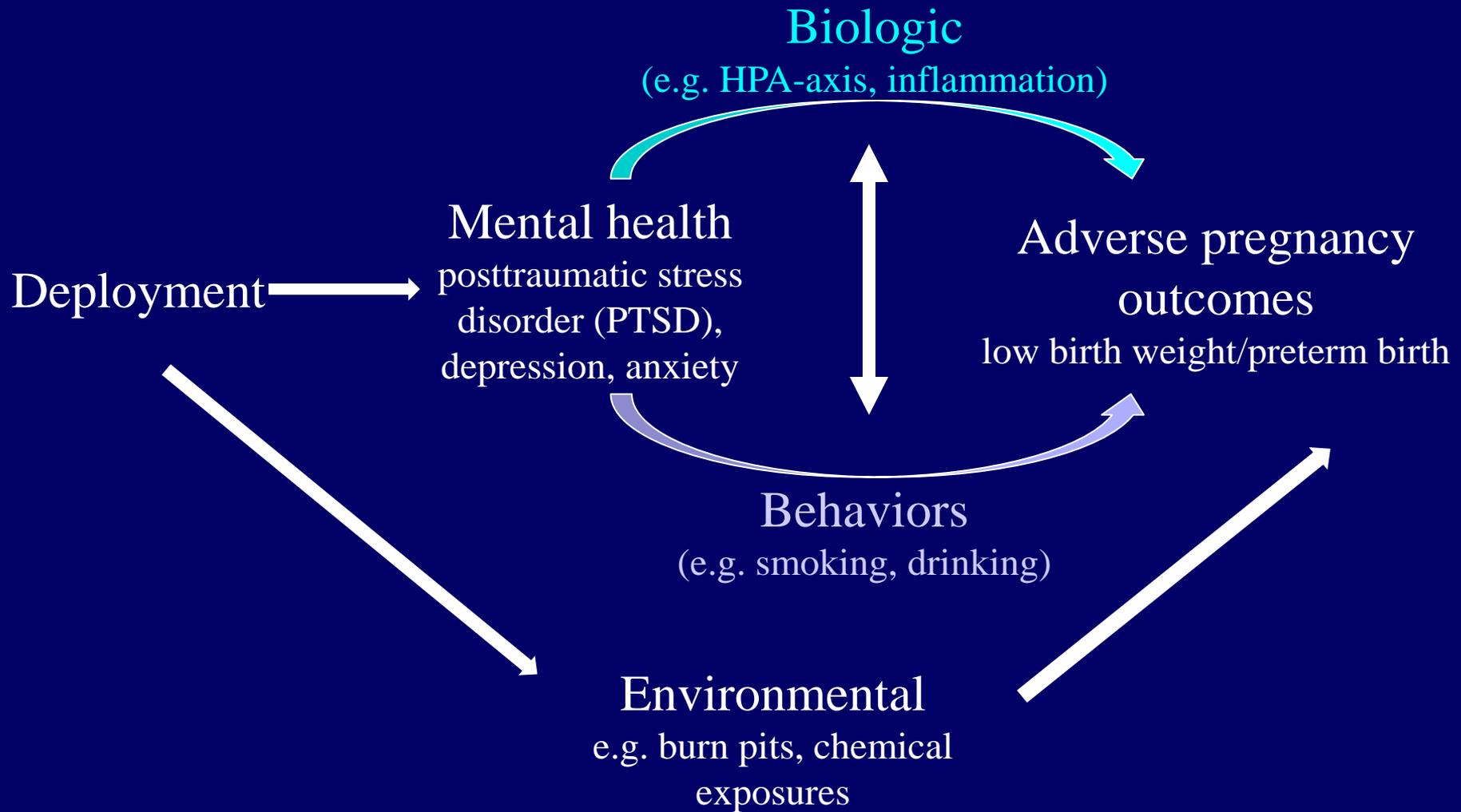
Deployment: Preterm birth and low birth weight



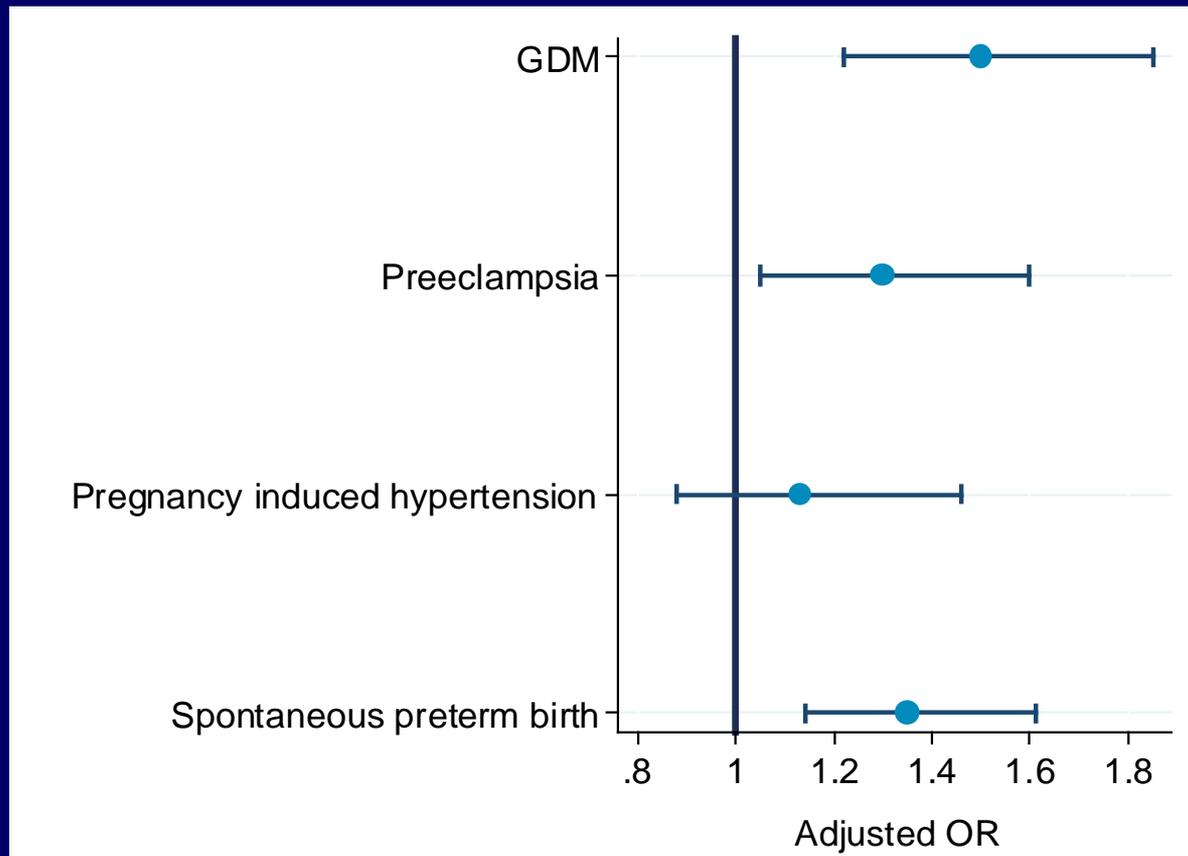
Katon, J., et al. (2017). "Deployment and Adverse Pregnancy Outcomes: Primary Findings and Methodological Considerations." *Matern Child Health J* 21(2): 376-386.



Deployment and Pregnancy Outcomes: Potential mechanisms



Posttraumatic Stress Disorder (PTSD): Associations with pregnancy complications



Shaw, J. G., et al. (2014). "Posttraumatic stress disorder and risk of spontaneous preterm birth." *Obstet Gynecol* **124**(6): 1111-1119.

Shaw, J. G., et al. (2017). "Post traumatic Stress Disorder and Antepartum Complications: a Novel Risk Factor for Gestational Diabetes and Preeclampsia." *Paediatr Perinat Epidemiol* **31**(3): 185-194.



Summary and Next Steps

- ❖ Women Veterans using VA maternity benefits may be a high risk group
 - » High prevalence of complications has implications for chronic disease risk
- ❖ Deployment may increase risk for low birth weight and preterm birth
- ❖ Mental health may be an important explanatory factor
- ❖ **Next steps:** Identifying means of enhancing care to improve clinical and behavioral outcomes (CDA)



VA Gynecology Care



VA Gynecology Care

VA Gynecology

Requires a gynecologist or specialized training

Sub-specialty care

- Uro-gynecology
- Reproductive endocrinology
- Gynecologic oncology

Specialty care

- Surgical and medical management of benign gynecologic conditions
- Menopausal symptom management
- Cervix/uterus/vulva/vaginal diseases
- Pelvic pain and sexual dysfunction
- Fertilization, IUDs, implants

Basic care

(may be provided by a designated women's health provider in primary care)

- Preventative screenings and health care
- Primary care
- Basic family planning
- Sexually transmitted infections



VA Gynecologists: Where are they practicing?

- ❖ Currently 104 out of 140 VA Healthcare Systems have at least one gynecologist

Characteristics of VAs with at least one gynecologist

Facility complexity, n (%)	
Least complex (3)	6 (7)
Moderately complex (2)	25 (28)
Most complex (1a/1b)	59 (66)
Non-Metropolitan, n (%)	8 (8)
≥2,715 women Veterans in catchment area, n (%)	59 (60)



VA Gynecologists: Where are they 'missing'?

- ❖ There are 36 VA Healthcare Systems without a gynecologist
 - » 42% of these sites provide select gynecology services (e.g. IUD insertion/removal)

Characteristics of VA facilities without a gynecologist	
Site complexity, n (%)	
Least complex (3)	23 (63.9)
Moderately complex (2)	5 (13.9)
Most complex (1a/1b)	6 (16.7)
Non-Metropolitan n (%)	9 (25)
Median female uniques in FY14 (IQR) ¹	1797 (1411, 2788)
¹ IQR = interquartile range (25 th percentile-75 th percentile)	

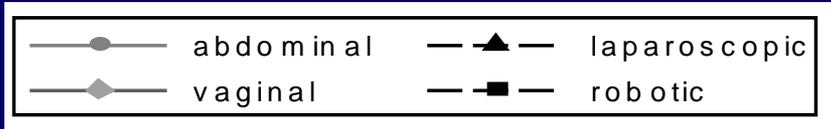
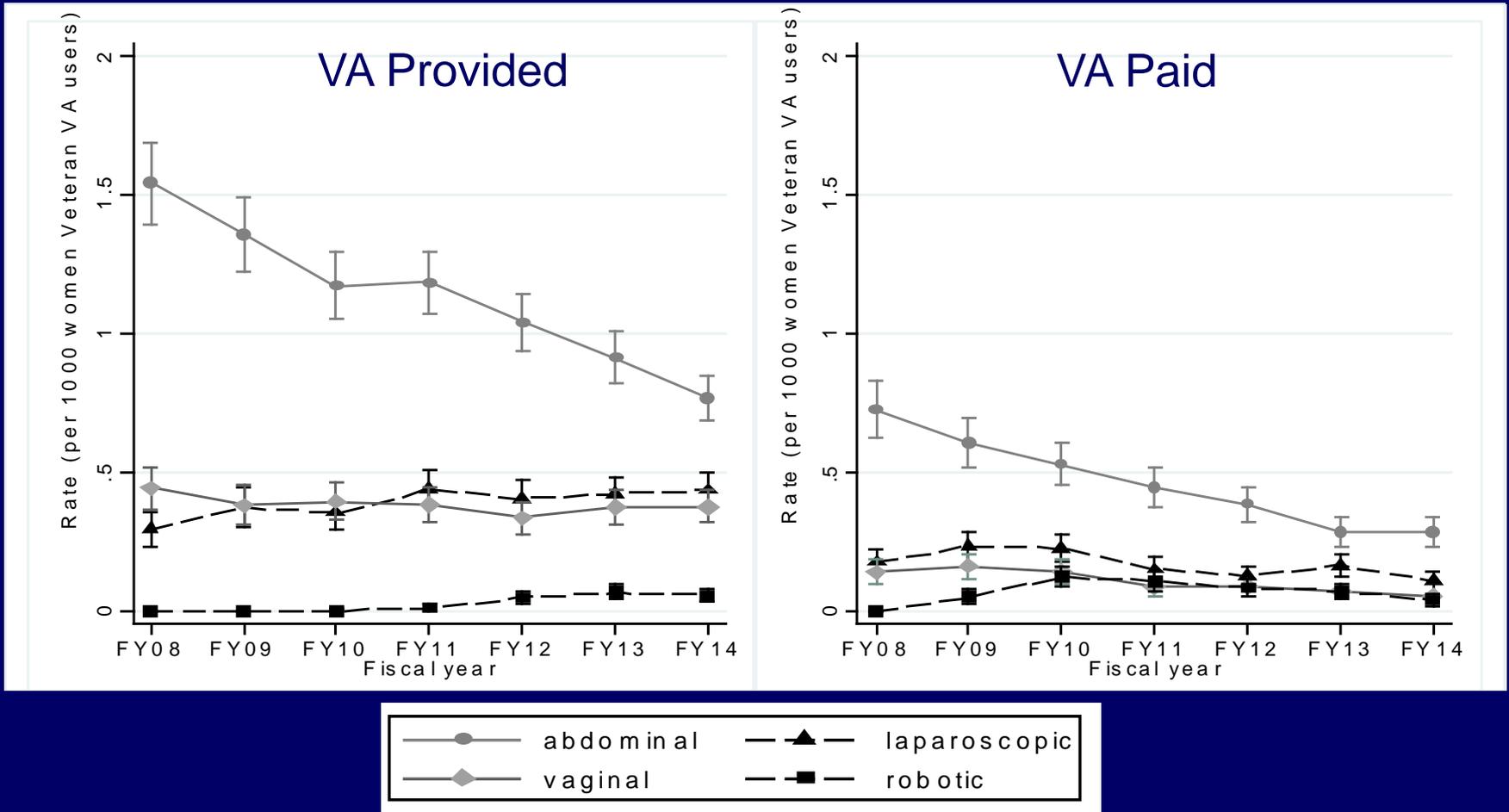


Quality of VA Gynecology Care: Hysterectomy

- ❖ 2nd most frequent surgery among all US women
- ❖ Treats gynecologic malignancies and benign conditions (e.g. fibroids)
- ❖ Minimally invasive techniques reduce hospital stays, speed recovery, and reduce infection
 - » Racial/ethnic disparities documented outside VA
- ❖ National trends include:
 - »  overall hysterectomy rates
 - »  minimally invasive techniques



Hysterectomy Rates in VA: Benign indications (per 1,000 women Veterans)

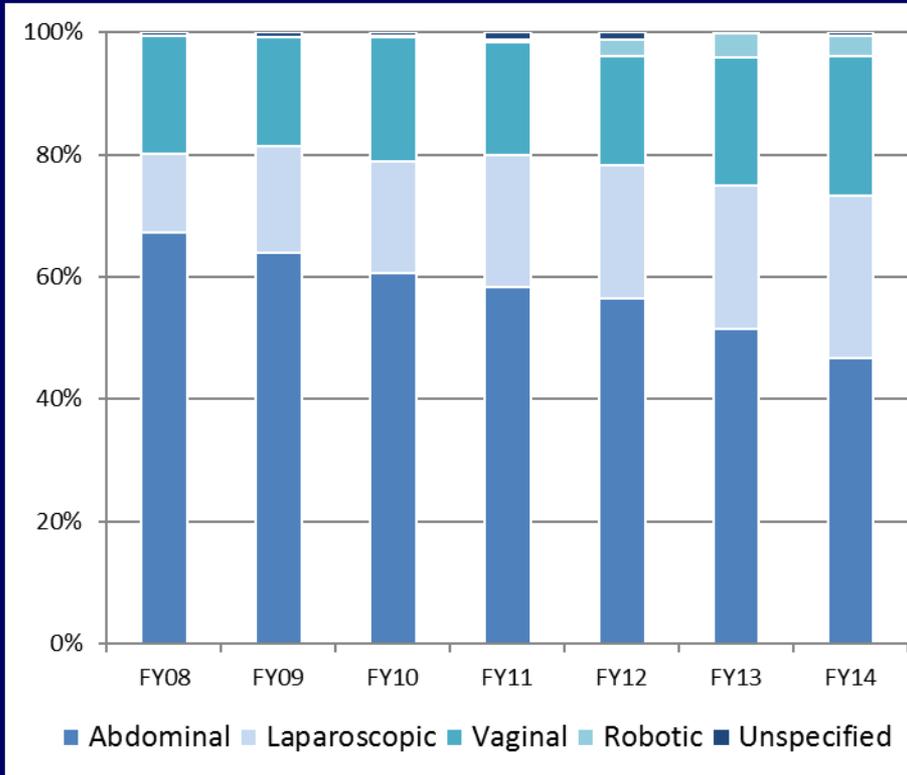


Katon, J. G., et al. (2017). "Trends in hysterectomy rates among women veterans in the US Department of Veterans Affairs." *Am J Obstet Gynecol.*

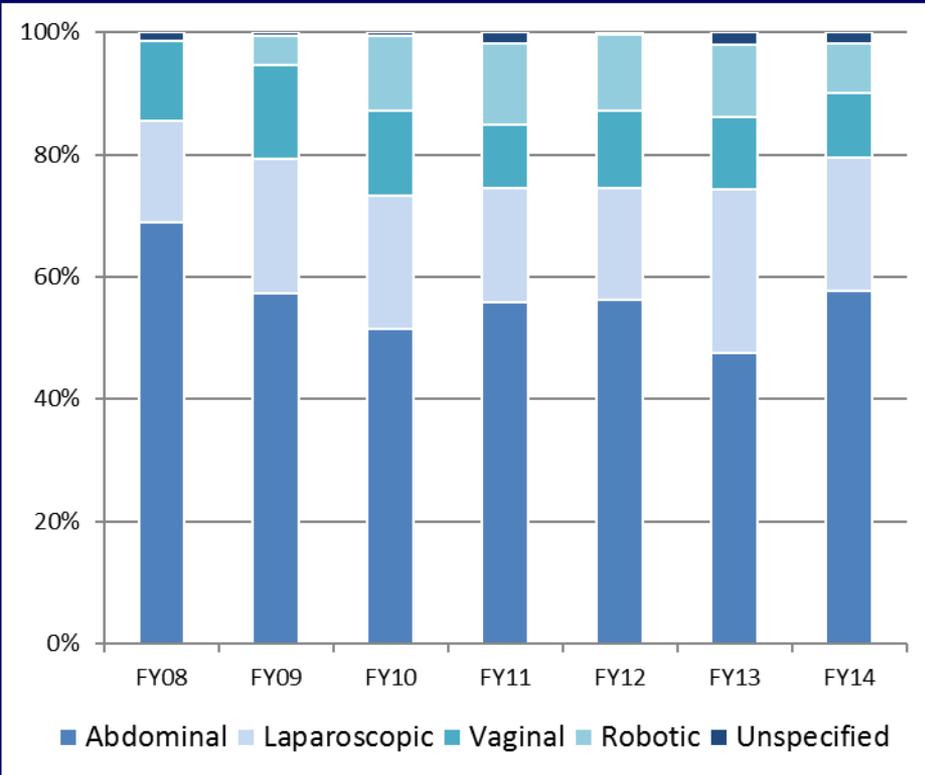


Mode of Hysterectomy in VA: Benign indications

VA Provided



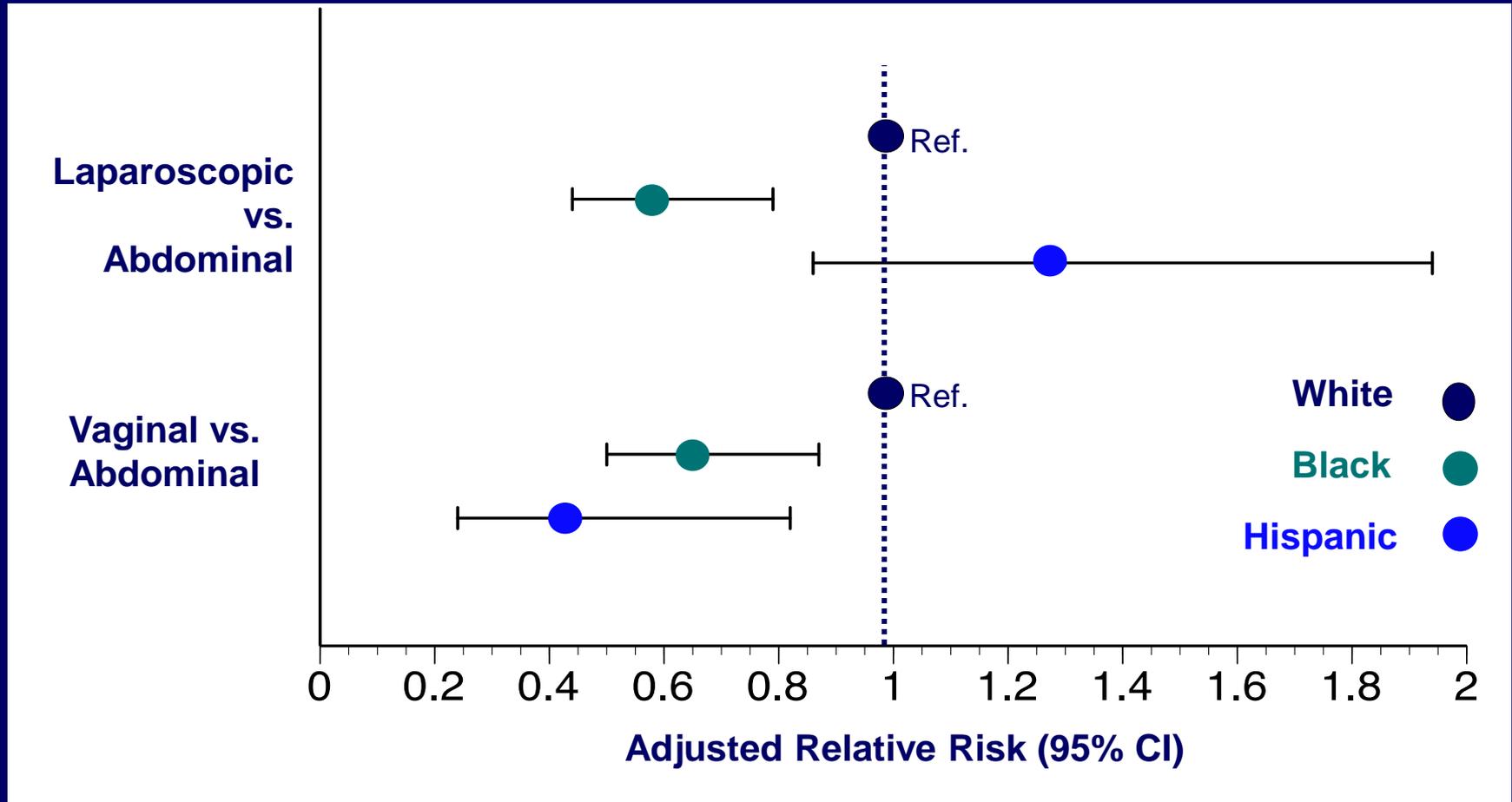
VA Paid



Katon, J. G., et al. (2017). "Trends in hysterectomy rates among women veterans in the US Department of Veterans Affairs." [Am J Obstet Gynecol.](#)



Minimally Invasive Hysterectomy in VA: Racial/ethnic disparities



Callegari LS, Gardella CM, Gray KE, Zephyrin L, Uchendu US, Katon JG. Unequal treatment? Racial/ethnic differences in receipt of minimally invasive hysterectomy in the Veterans Health Administration. HSR&D/QUERI National Conference. Arlington, VA July 18 20 2017.



Summary

- ❖ VA gynecologists practice in a range of settings
- ❖ VA has kept pace with national hysterectomy trends
- ❖ BUT, there are racial/ethnic disparities in minimally invasive hysterectomy in VA
 - » These could be due to clinical differences or differences in pathways to hysterectomy
- ❖ **Next Steps:** mixed methods examining role of system and clinical factors in surgical decision making



Women Veterans and Menopause



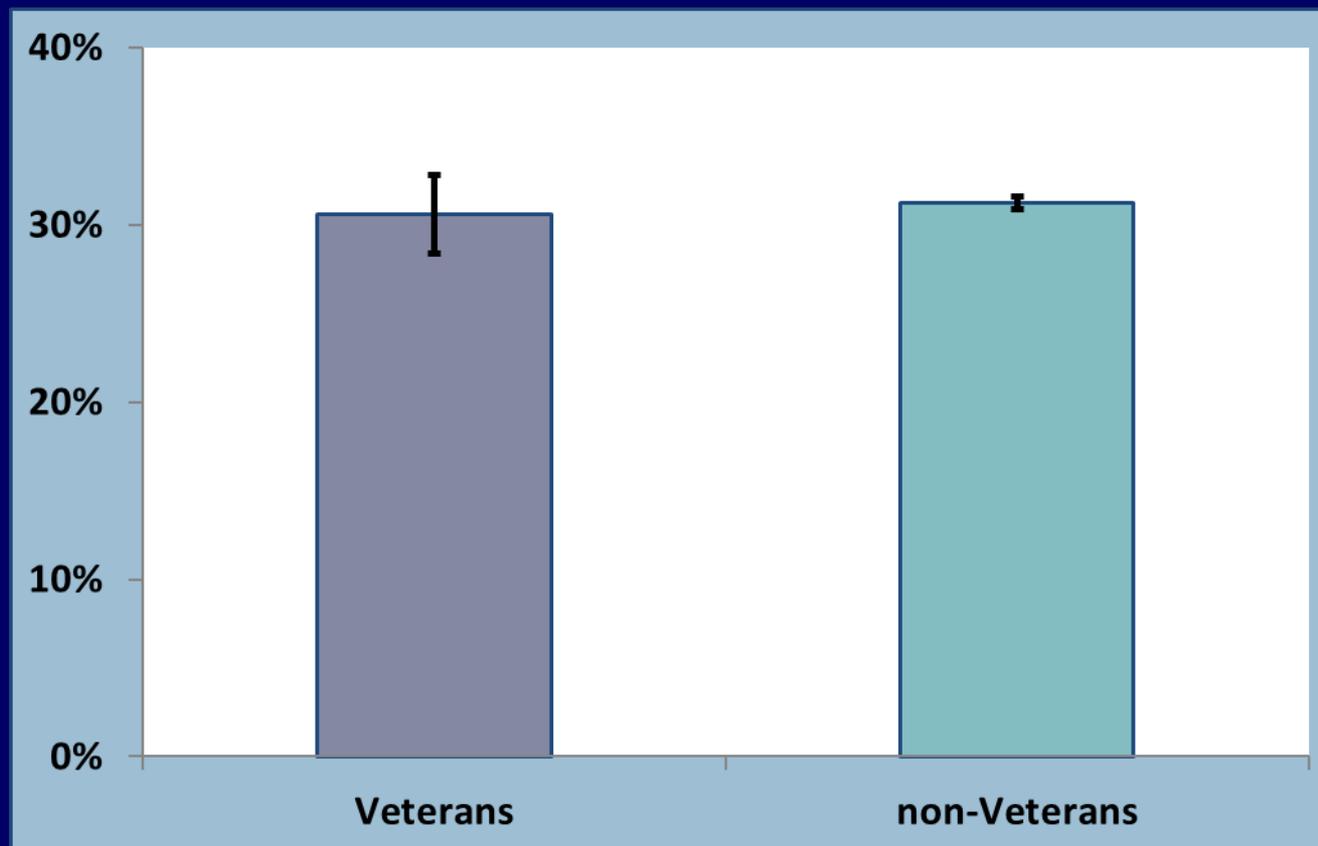
Menopausal Symptoms:

Prevalence and impact among women Veterans

- ❖ Hot flashes and night sweats (aka vasomotor symptoms (VMS)) are common
- ❖ VMS are associated with:
 - » Increased healthcare utilization
 - » Impairment of activities of daily living
- ❖ Women Veterans may be particularly vulnerable to VMS



Women Veterans and VMS: Prevalence of hot flashes and night sweats

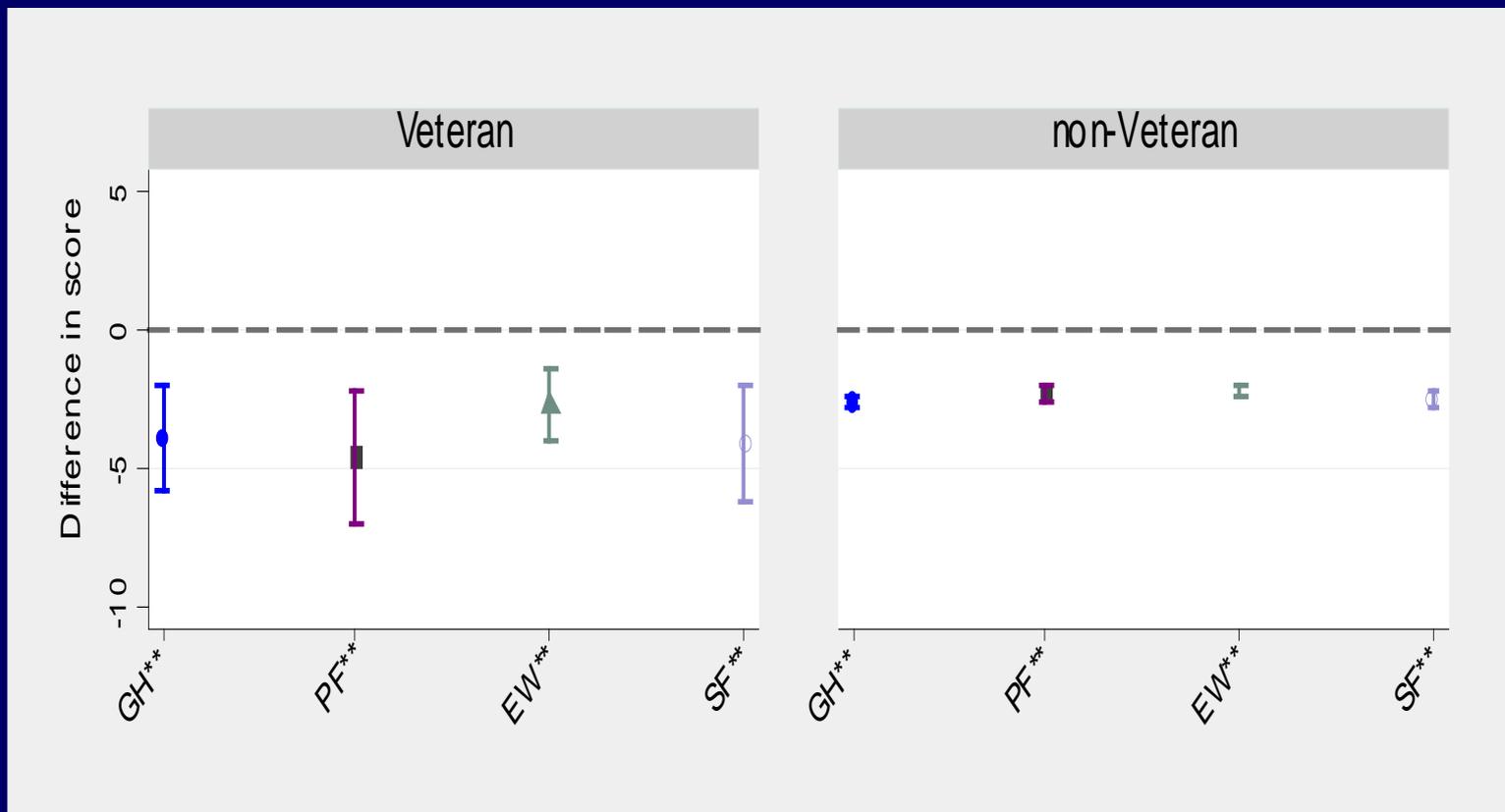


¹Adjusted for age, race, education, time since menopause, obesity, pack years of smoking, depression, diabetes, hypertension and physical activity

Katon, J. G., et al. (2016). "Vasomotor Symptoms and Quality of Life Among Veteran and Non Veteran Postmenopausal Women." *Gerontologist* **56** *Suppl 1*: S40-53.



Women Veterans and VMS: Associations with health related quality of life



GH general health, PF physical function, EW emotional well being, SF social function

*** p<0.001, ** p<0.01, * p<0.05

¹Adjusted for age, race, education, overall QOL at baseline, obesity, pack years of smoking, depression, diabetes, hypertension and physical activity

Katon, J. G., et al. (2016). "Vasomotor Symptoms and Quality of Life Among Veteran and Non Veteran Postmenopausal Women." *Gerontologist* **56** Suppl 1: S40-53.



Summary

- ❖ Women Veterans do not necessarily experience more frequent or severe menopausal symptoms than non-Veterans
- ❖ BUT women Veterans may have greater difficulty managing these symptoms
- ❖ AND be more negatively impacted
- ❖ The role of mental health should be further explored



Overall Conclusions

- ❖ Women Veterans' reproductive health research is a rapidly growing area of inquiry
 - » A systematic review is currently underway
- ❖ Mental health has an important role in reproductive health and healthcare of women Veterans
- ❖ As VA continues to build programs to deliver reproductive healthcare, on-going evaluation is needed to ensure quality and equity



Acknowledgements

John Fortney, PhD (CDA, Co-primary mentor)

Gayle Reiber, PhD

Kristen Gray, PhD, MS

Lisa Callegari, MD, MPH

Keren Lehavot, PhD

Carolyn Gardella, MD, MPH

George Sayre, PhD

Erica Ma

Sara Magnuson

Erica Tartaglione

Elizabeth Yano, PhD (CDA, Co-primary mentor)

Donna Washington, MD, MPH

Kristin Mattocks, PhD

Ciaran Phibbs, PhD

Susan Frayne, MD, MPH

Jonathan Shaw, MD, MPH

Katherine Hoggatt, PhD

Donna Washington, MD, MPH

Carolyn Gibson, PhD, MPH

Elizabeth Patton, MD, MPH

VA Women's Health Services

Laurie Zephyrin, MD, MPH

VA Office of Health Equity

Uche Uchenna, MD, MPH

VA HSR&D (CDA 13-266)

VA Office of Academic Affiliations

VA Women's Health Services

VA Office of Health Equity



Resources

Questions: Jodie Katon (jodie.katon@va.gov)

VA Women Veterans Research Network (WHRN)

Reproductive Health Working Group

Jodie Katon: jodie.katon@va.gov

Elizabeth Patton: elizabeth.patton@va.gov

Laurie Zephyrin: laurie.zephyring@va.gov

General

Elizabeth Yano: elizabeth.yano@va.gov

Ruth Klap: ruth.klap@va.gov

Practice Based Research Network

Susan Frayne: susan.frayne@va.gov

Diane Carney: diane.carney@va.gov



Evidence Map: Women Veterans' Health Research Literature

https://www.hsrdr.research.va.gov/publications/management_briefs/default.cfm?ManagementBriefsMenu=eBrief-no119

State of Reproductive Health in Women Veterans

https://www.womenshealth.va.gov/WOMENSHEALTH/docs/SRH_FINAL.pdf

