Contraceptive Care in the VA Healthcare System: New Insights from a National Survey

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Outline

- Present new data on unintended pregnancy rates and contraceptive use, drawing comparisons to national data
- Discuss risk for unintended pregnancy and contraceptive use among vulnerable Veteran populations
  - Racial/ethnic minority women
  - Women with medical comorbidities
  - Women with mental illness
- Review future directions and implications

Poll question #1

- What is your primary role in VA?

1. VA researcher
2. Non-VA researcher
3. Clinician
4. Management/ operations
5. Other

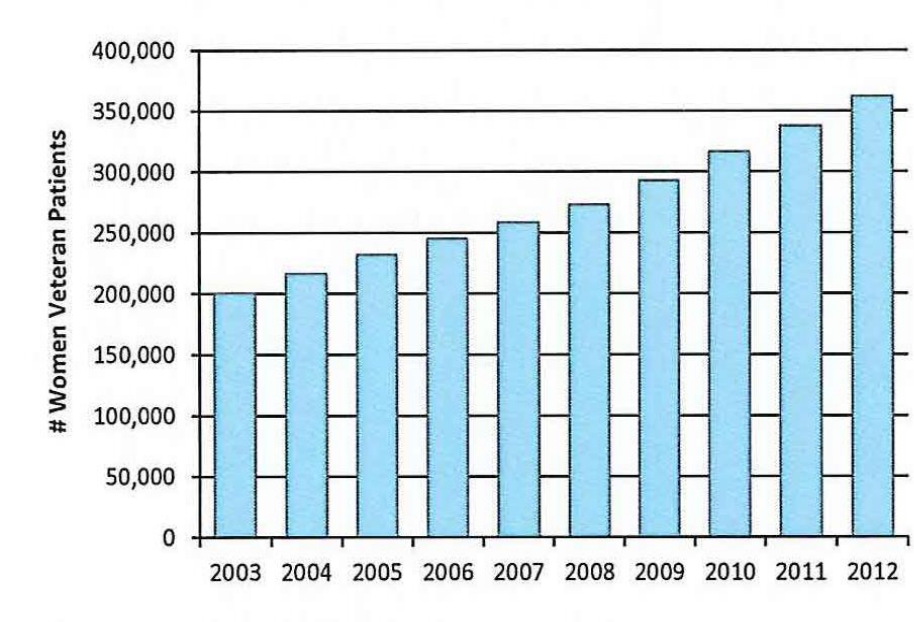
Unintended pregnancy

- Unintended pregnancy is a prevalent issue in the US linked with adverse health consequences:
  - Inadequate of delayed entry into prenatal care
  - Higher prevalence of smoking and alcohol use
  - Higher likelihood of depression and IPV
  - Lower likelihood of breastfeeding
  - Mixed data about poorer perinatal outcomes

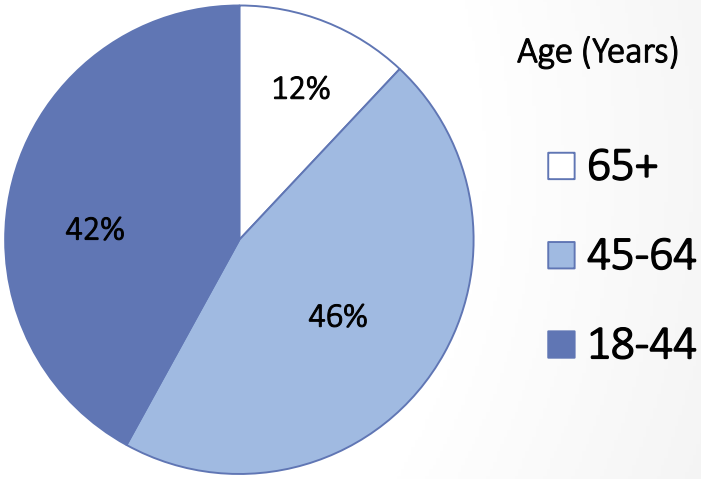
- Unintended pregnancy can be averted by consistent use of effective contraception
  - Contraceptive care is integral to primary care

The number of women Veterans of reproductive age is growing

Number of women Veteran VHA patients in each year, FY03-FY12



Age distribution among women Veteran VHA patients, FY12



Sourcebook Vol. 3: Women Veterans in the Veterans Health Administration

Unintended pregnancy among women VA-users

- Women VA-users may have increased risk for unintended pregnancy:
  - Disproportionately from lower income strata
  - Disproportionately from racial/ethnic minority groups
  - High medical and psychiatric disease burden
  - High prevalence of sexual assault histories
  - Health care system that has historically cared for men

- Given prevalence of medical/mental comorbid conditions, negative effects of unintended pregnancy may be amplified

Little is known about contraceptive care in VA

- Prior research using national VA administrative data indicated *only 22%* of women VA-users had a documented prescription method

- Otherwise, little is known about contraceptive care

Borrero: Contraception, 2012

"Examining Contraceptive Use and Unmet Need among Women Veterans" (ECUUN) Study

Objectives:

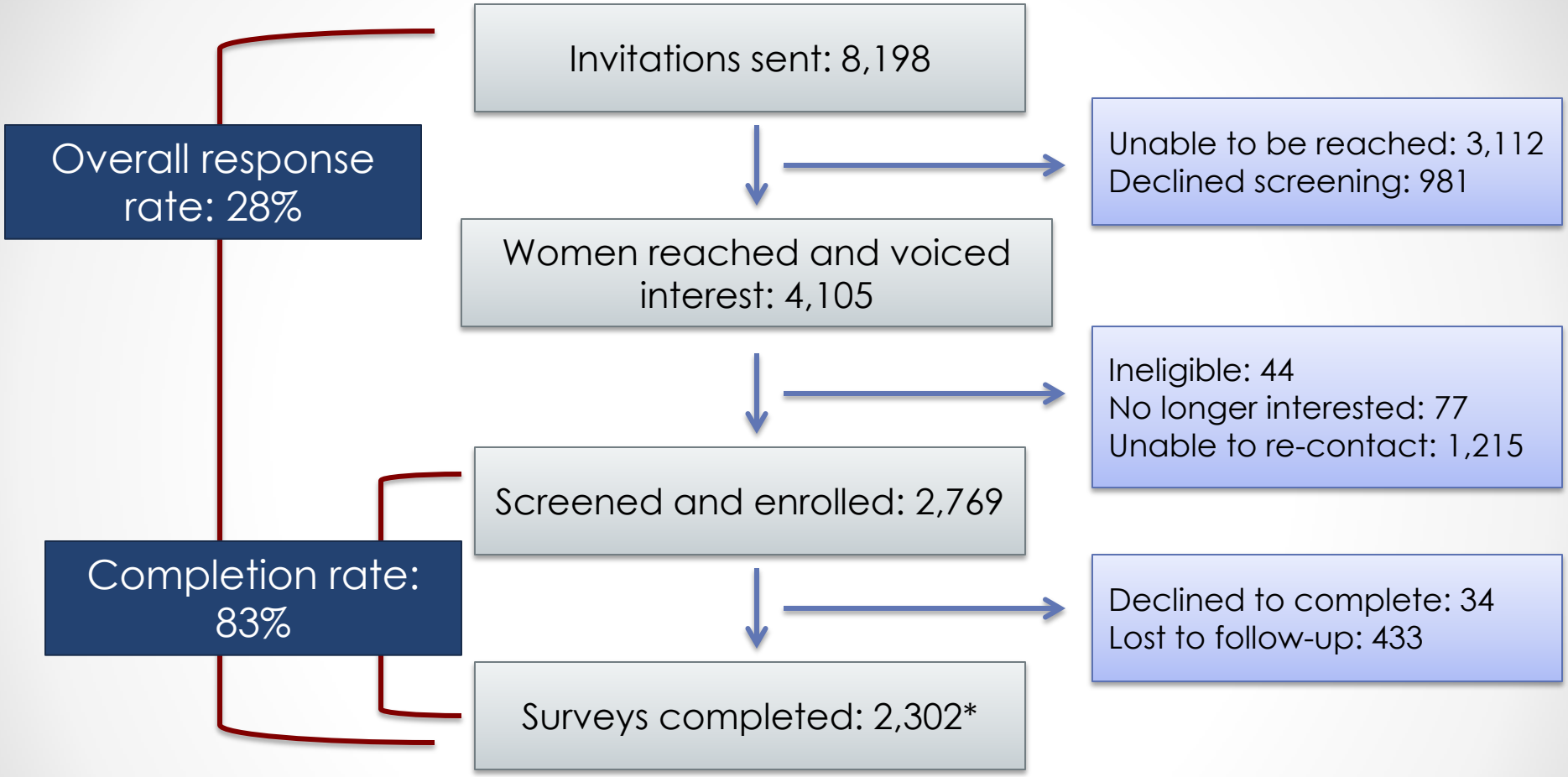
1. Obtain rates of contraceptive use, unmet contraceptive need, and unintended pregnancy
2. Determine which subpopulations of women Veterans are at highest risk
3. Identify key modifiable barriers and facilitators to contraceptive use and how they vary across subpopulations

Funding: Office of Research and Development Health Services Research and Development Service (IIR 12-124; PI: Borrero)

ECUUN design

- Cross-sectional, telephone-based survey conducted between April 2014 to January 2016
- Collected information on reproductive outcomes and factors affecting risk of unintended pregnancy and contraceptive use
- Random sample of female veterans aged 18-44 who received care in VA in the prior 12 months
- Representing all regions and VISNS in US

ECUUN study sample



*Participants did not differ from non-respondents with regard to age, race, geographic region, income, marital status, or presence/absence of mental or medical illness

Rates of unintended pregnancy and contraceptive use

- Descriptive statistics to assess:
  - Sample characteristics
  - Annual rate of unintended pregnancy
  - Current contraceptive use and type of method
  - "Unmet contraceptive need": proportion of women at risk for unintended pregnancy not using prescription contraception

- For comparison, we calculated age-adjusted US population estimates using data from the 2011-2013 National Survey of Family Growth (NSFG)

Poll question #2

- Rates of IUD use among women Veterans who use the VA compared to the general population are:

1. Lower
2. The same
3. Higher

Sample characteristics

Variable*	Total sample (n =2,302)
Age, mean	34.7 (SD=5.6)
Race/ethnicity, %	
White, non-Hispanic	51.6
Black, non-Hispanic	28.9
Hispanic	12.4
Other	7.1
Annual household Income, %	
<$20,000	20.3
$20,000-$59,999	54.1
≥$60,000	25.6
≥1 Medical condition, %	56.2
≥1 Mental illness, %	68.7
History of military sexual trauma (MST), %	55.0

*Based on self-report from survey items

Borrero: *JGIM*, 2017

Annual rate of unintended pregnancy

Variable	Total sample (n =2, 302)
Rate of pregnancy per 1,000 women	67.3
Rate of unintended pregnancy per 1,000 women	26.1
Proportion of pregnancies that are unintended	37.1

Unintended pregnancy was defined as a pregnancy that was reported as having been either "unwanted" at the time of conception or as having occurred "sooner than desired"

Borrero: *JGIM*, 2017

Annual rate of unintended pregnancy

Variable	Total sample (n =2, 302)	US population age-adjusted to VA population
Rate of pregnancy per 1,000 women	67.3	96.2
Rate of unintended pregnancy per 1,000 women	26.1	34.4
Proportion of pregnancies that are unintended	37.1	35.2

Unintended pregnancy was defined as a pregnancy that was reported as having been either "unwanted" at the time of conception or as having occurred "sooner than desired"

Borrero: *JGIM*, 2017

Contraceptive use

Variable	Total ECUUN sample (n=2,302)
Using contraception	**62.3**
Highly effective methods	34.4
Sterilization (male or female)	18.5
IUD	13.6
Implant	2.2
Moderately effective methods*	17.4
Least effective methods**	10.2

*Moderately effective methods: contraceptive pills, patch, ring, injection
**Least effective methods: condoms, withdrawal, natural family planning

Borrero: *JGIM*, 2017

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Highly effective methods	34.4
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IUD	13.6
Implant	2.2
Moderately effective methods*	17.4
Least effective methods**	10.2
Not using contraception	**37.7**
Pregnant/seeking pregnancy	6.8
Hysterectomy	7.4
Not sexually active	13.5
Nonsurgically sterile	3.9
Sexually active	5.9

*Moderately effective methods: contraceptive pills, patch, ring, injection
**Least effective methods: condoms, withdrawal, natural family planning

Borrero: *JGIM*, 2017

Contraceptive use

Variable	Total ECUUN sample (n=2,302)	US population age-adjusted to VA population
Using contraception	**62.3**	**68.4**
Highly effective methods	34.4	38.3
Sterilization (male or female)	18.5	30.1
IUD	13.6	7.6
Implant	2.2	0.5
Moderately effective methods*	17.4	16.5
Least effective methods**	10.2	13.4
Not using contraception	**37.7**	**31.6**
Pregnant/seeking pregnancy	6.8	11.2
Hysterectomy	7.4	1.1
Not sexually active	13.5	10.5
Nonsurgically sterile	3.9	2.5
Sexually active	5.9	6.4

*Moderately effective methods: contraceptive pills, patch, ring, injection
**Least effective methods: condoms, withdrawal, natural family planning

Borrero: *JGIM*, 2017

Unmet contraceptive need

Variable	At-risk cohort* (n= 1,173)
Using contraception	**88.5**
Highly effective methods	48.8
Sterilization (male or female)	26.0
IUD	19.5
Implant	3.3
Moderately effective methods	23.4
Least effective methods	15.9
Not using any contraception	**11.5**

Nearly 23% of women using IUD or implant

*Women who have been sexually active with a man in the prior 3 months; have not had a hysterectomy or other history of infertility; and are not pregnant, postpartum or seeking pregnancy

Borrero: *JGIM*, 2017

Unmet contraceptive need

Variable	At-risk cohort* (n= 1,173)
Using contraception	88.5
Highly effective methods	48.8
Sterilization (male or female)	26.0
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Not using any contraception	**11.5**
Not using prescription contraception (potential unmet need)	**27.4**

*Women who have been sexually active with a man in the prior 3 months; have not had a hysterectomy or other history of infertility; and are not pregnant, postpartum or seeking pregnancy

Borrero: *JGIM*, 2017

Unmet contraceptive need

Variable	At-risk cohort* (n= 1,173)	US population age-adjusted to VA population
Using contraception	88.5	90.2
Highly effective methods	48.8	47.7
Sterilization (male or female)	26.0	36.5
IUD	19.5	10.4
Implant	3.3	0.8
Moderately effective methods	23.4	22.2
Least effective methods	**15.9**	**20.3**
Not using any contraception	**11.5**	**9.8**
Not using prescription contraception (potential unmet need)	**27.4**	**30.1**

*Women who have been sexually active with a man in the prior 3 months; have not had a hysterectomy or other history of infertility; and are not pregnant, postpartum or seeking pregnancy

Borrero: *JGIM*, 2017

Conclusions

- Over a third of all pregnancies occurring among women VA-users each year are unintended
- Over a quarter of women veterans at risk for unintended pregnancy are not using prescription contraception
- Although rates of IUD/implant use are encouraging, further efforts to improve contraceptive service delivery for women veterans are needed

Further examination of LARC use

- Among LARC users:
  - 54% received LARC within VA (¾ at the PCP site, ¼ at another VA site)
  - 46% received outside of VA (10% of these were referred out by VA PCP)

Questions:

1. *Which patient, provider and system-level factors are associated with LARC use?*
2. *Which provider and facility factors are associated with on-site receipt of LARC?*

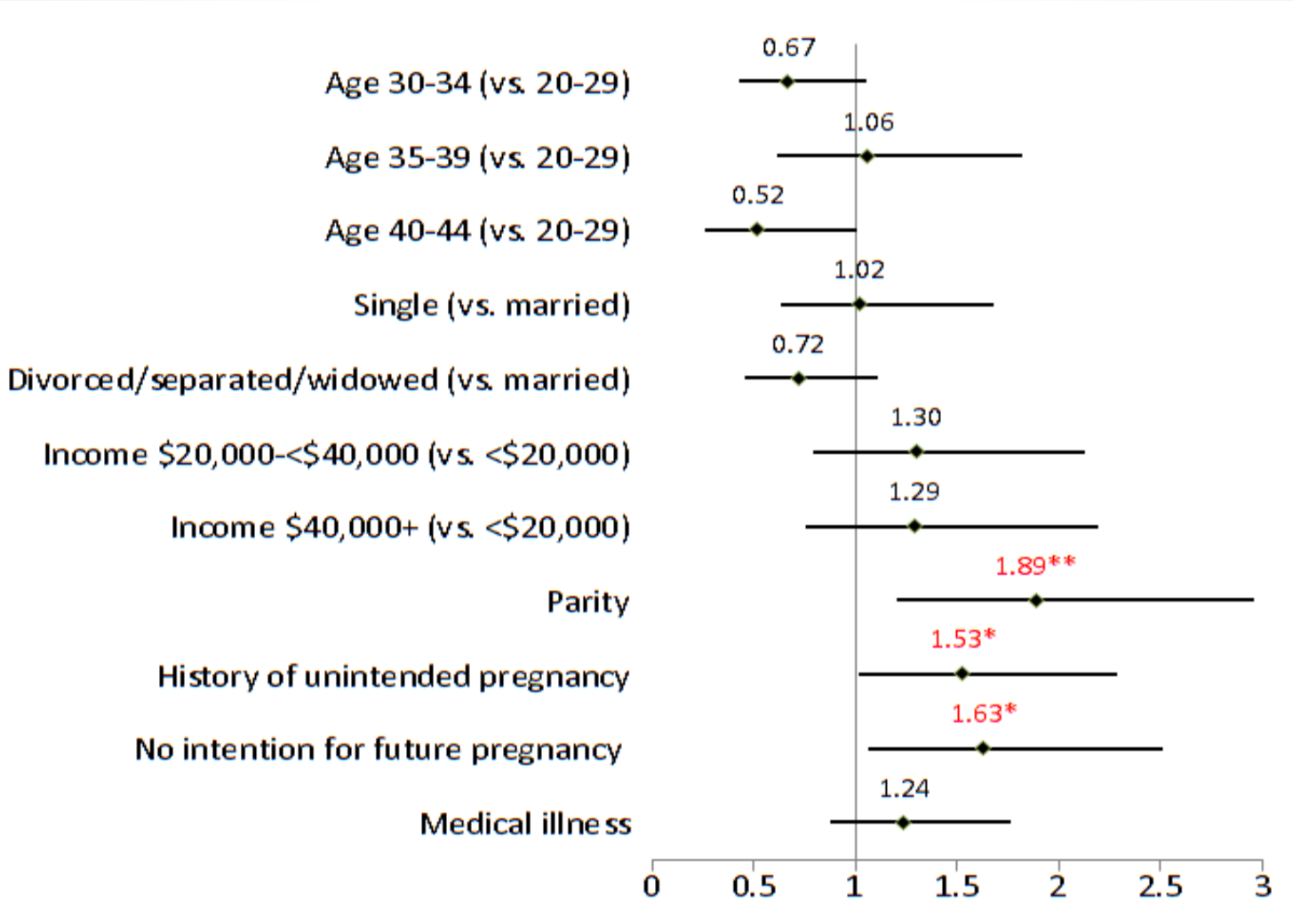
Analysis

- Outcomes: 1) LARC use and 2) on-site LARC receipt

- Independent variables:
  - *Patient-level*: demographic characteristics, mental or medical illness, history of MST, pregnancy history and intention
  - *Provider-level:* gender, whether provides all medical care, whether does paps
  - *Facility-level:* women's health clinic, on-site gynecologist, geographic region, community vs hospital-based clinic

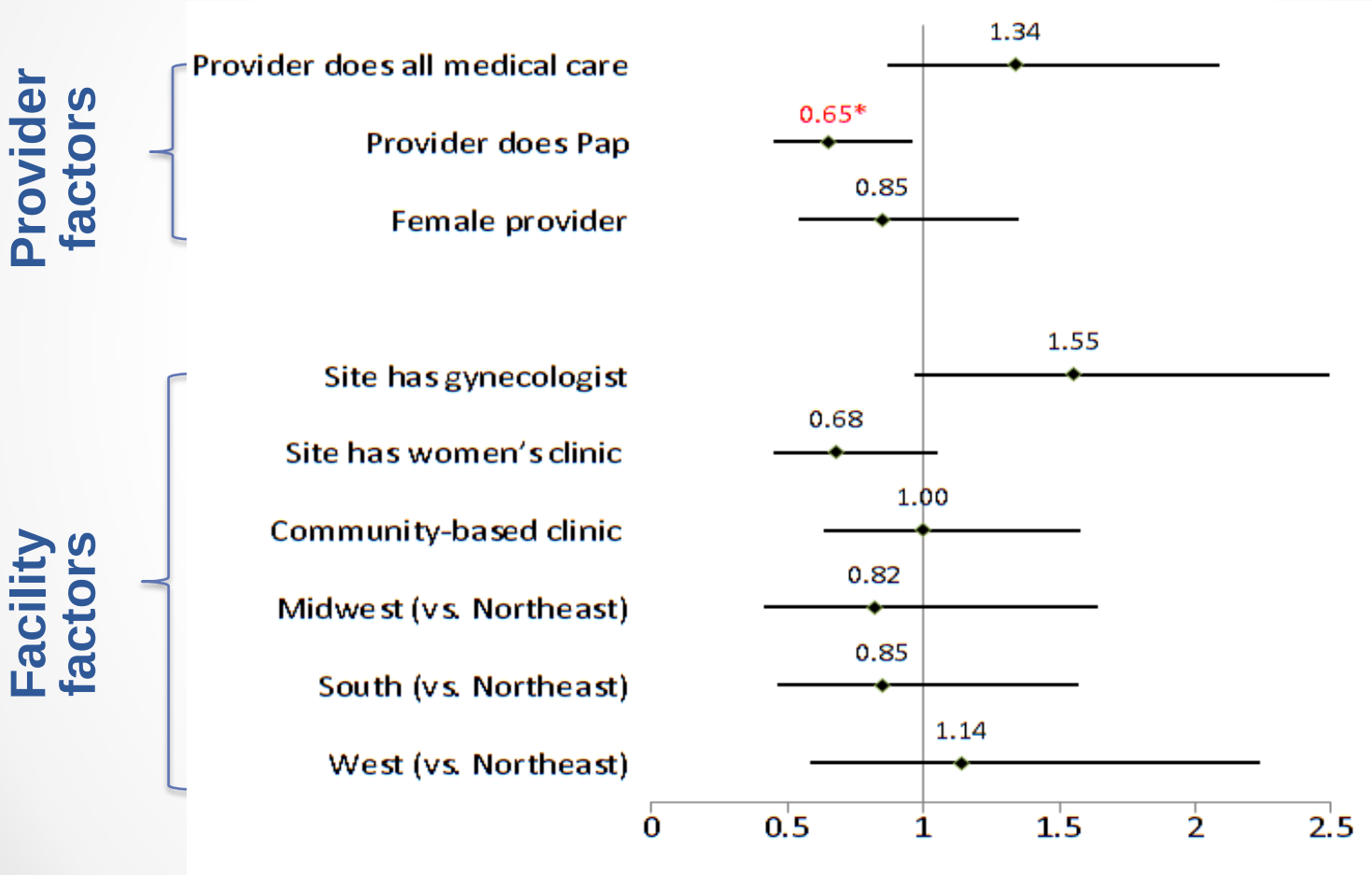
- Multivariable logistic regression to determine adjusted relationships
  - Models constructed by including ALL provider and facility level factors plus any patient-level factors significant in bivariate analyses at $p<0.15$

Patient factors associated with LARC use



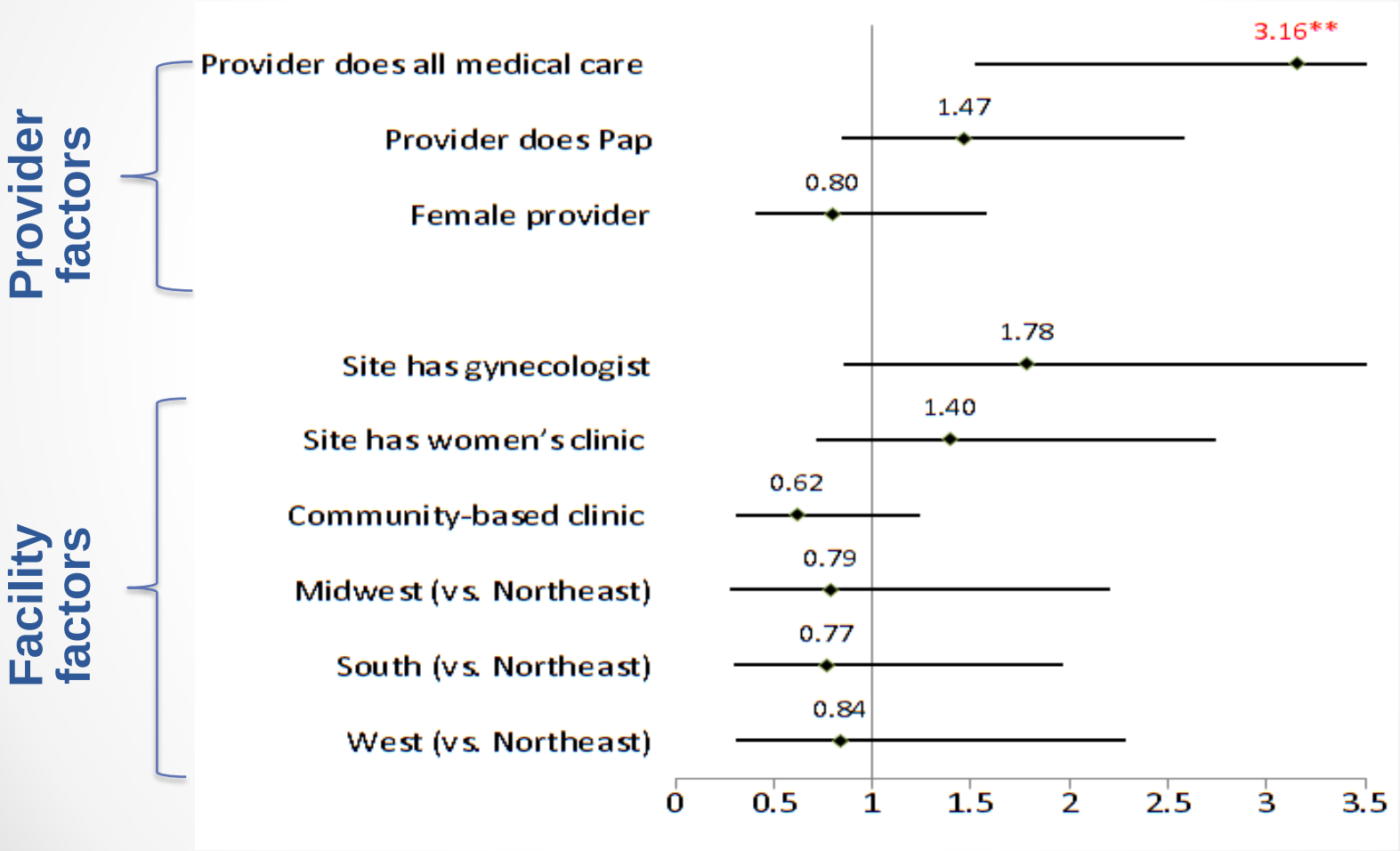
*Adjusted for all variables seen here plus provider and facility level factors. Other patient-factors (race/ethnicity, non-VA insurance, mental illness, MST, education level) were non-significant in bivariate analyses and thus not included in multivariable models

Provider and facility-level factors associated with LARC use



*Adjusted for patient-level variables on last slide plus all variables shown here

Provider and facility factors associated with on-site LARC receipt



*Adjusted for patient variables associated with the outcome in bivariate analysis (age, marital status, and has additional (non-VA) insurance) plus all variables shown here

Conclusions

- Use of LARC seems to be driven by patient-level factors rather than provider or facility-level factors
- Over half of women using LARC are receiving it within VA
- On-site LARC provision associated with seeing PCP for all their medical care

What about vulnerable populations?

1. **Racial/ethnic minorities**
2. **Women with chronic medical conditions**
3. **Women with mental illness**

What about vulnerable populations?

1. **Racial/ethnic minorities**
2. Women with chronic medical conditions
3. Women with mental illness

Racial/ethnic minorities

- Nearly half (46%) of reproductive-aged women Veterans who use the VA are non-White:
  32% Black, 10% Hispanic, 4% other

- In the general population, Black and Hispanic women are:
  - More likely to experience unintended pregnancy
  - Less likely to use effective contraceptive methods

Frayne: Women Veterans' Sourcebook Volume 3, 2014
Finer: *NEJM*, 2014
Dehlendorf: *AJOG*, 2010

Race/ethnicity & unintended pregnancy in past 5 years

Women Veterans who have used VA services for ≥ 5 yrs, n=1,485

Race/Ethnicity	Adjusted OR*
White	Ref
Non-Hispanic Black	**1.65 (1.12-2.42)**
Hispanic	0.87 (0.50-1.54)
Other	1.32 (0.67-2.58)

*Adjusting for age, income, education, and marital status

Race/ethnicity & effective contraceptive use at last sex

Women at risk of unintended pregnancy, n=1,325

Race/Ethnicity	Adjusted OR*
White	Ref
Non-Hispanic Black	**0.52 (0.36-0.76)**
Hispanic	**0.68 (0.51-0.91)**
Other	0.64 (0.39-1.03)

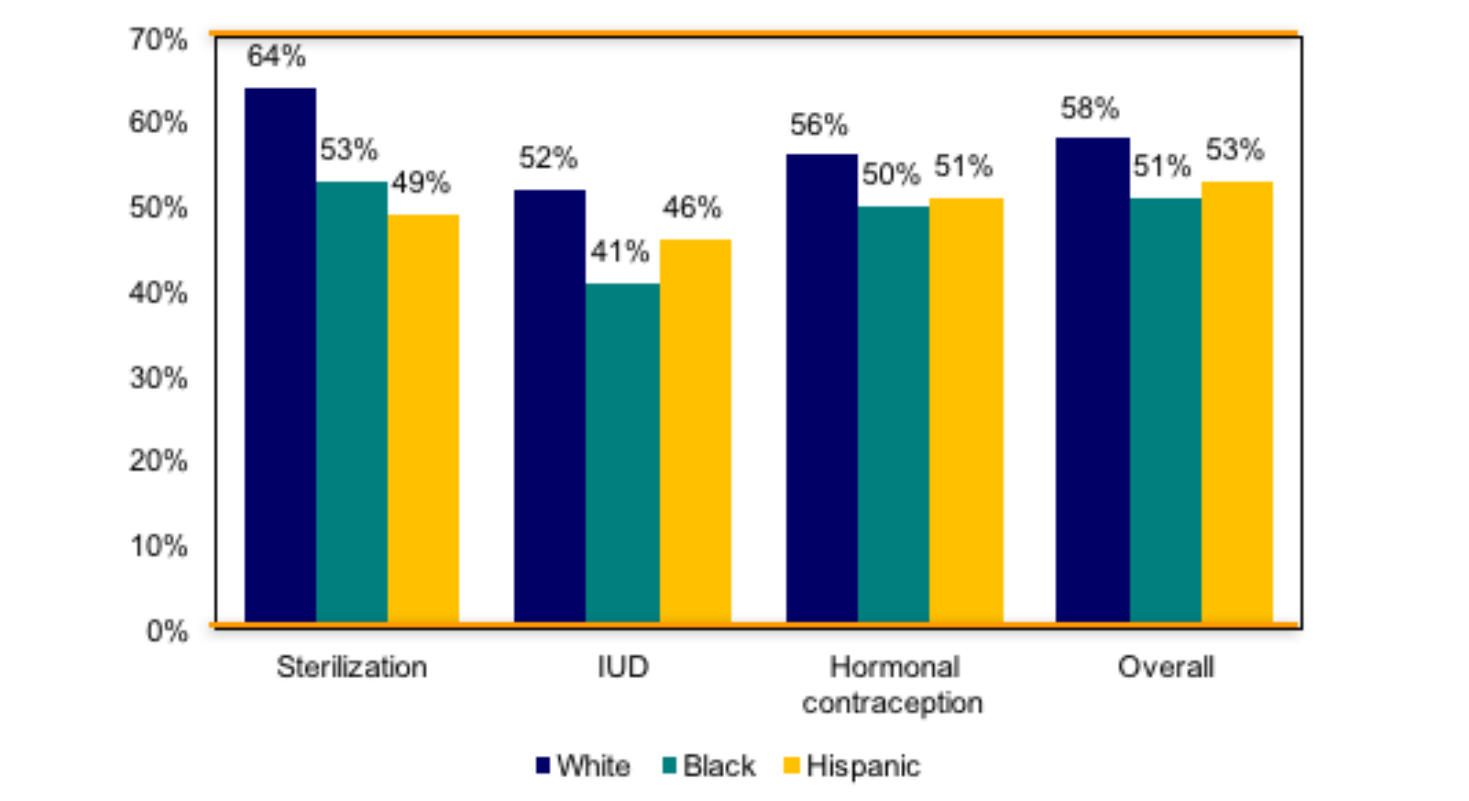
*Adjusted for age, income, education, and marital status

Understanding racial/ethnic differences

- How do known patient-level determinants of contraceptive use vary by race/ethnicity?
  - Knowledge
  - Preferences
  - Perceived discrimination

Racial/ethnic differences in knowledge

- Percent correct responses by race/ethnicity

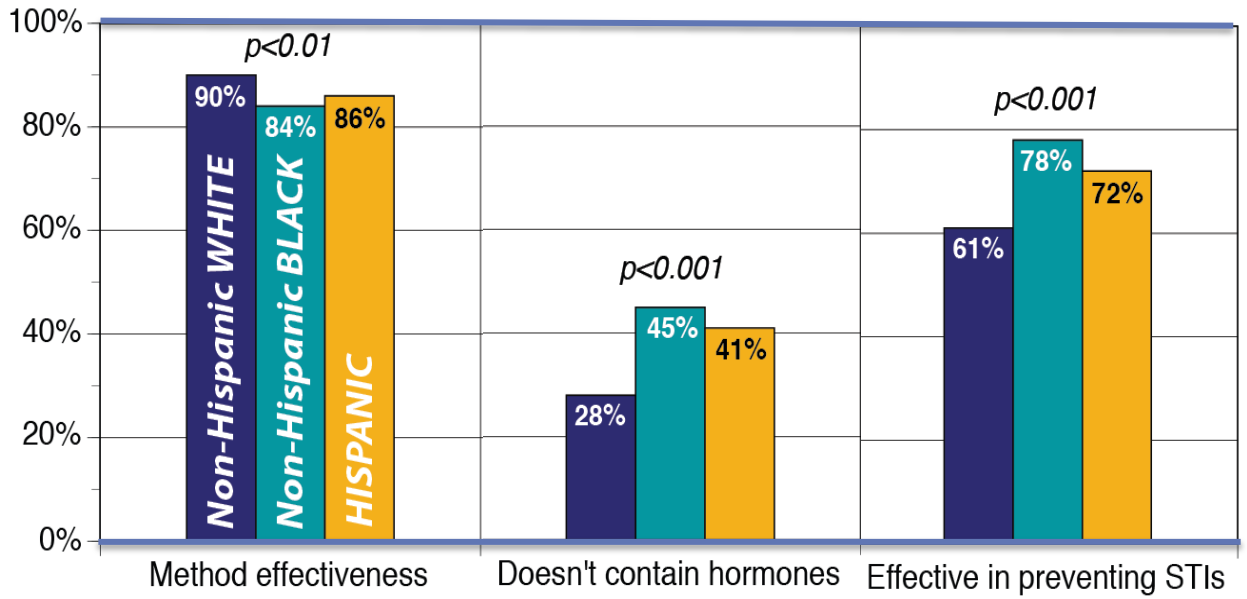


P<0.001 for all comparisons

Rosenfeld: *Contraception*, 2017

Racial/ethnic differences in preferences

***Preference* ("Extremely Important") by Race/ Ethnicity**



Adjusted OR (95% CI)*	Method effectiveness	Doesn't contain hormones	Effective in preventing STIs
White	Ref	Ref	Ref
Black	0.6 (0.4, 0.7)	1.9 (1.6, 2.4)	2.0 (1.6, 2.5)
Hispanic	0.8 (0.6, 1.2)	1.7 (1.3, 2.3)	1.6 (1.2, 2.3)

*Adjusted for age, marital status, income, education, parity, deployment history, medical condition, and mental health condition

Callegari: *AJOG*, 2017

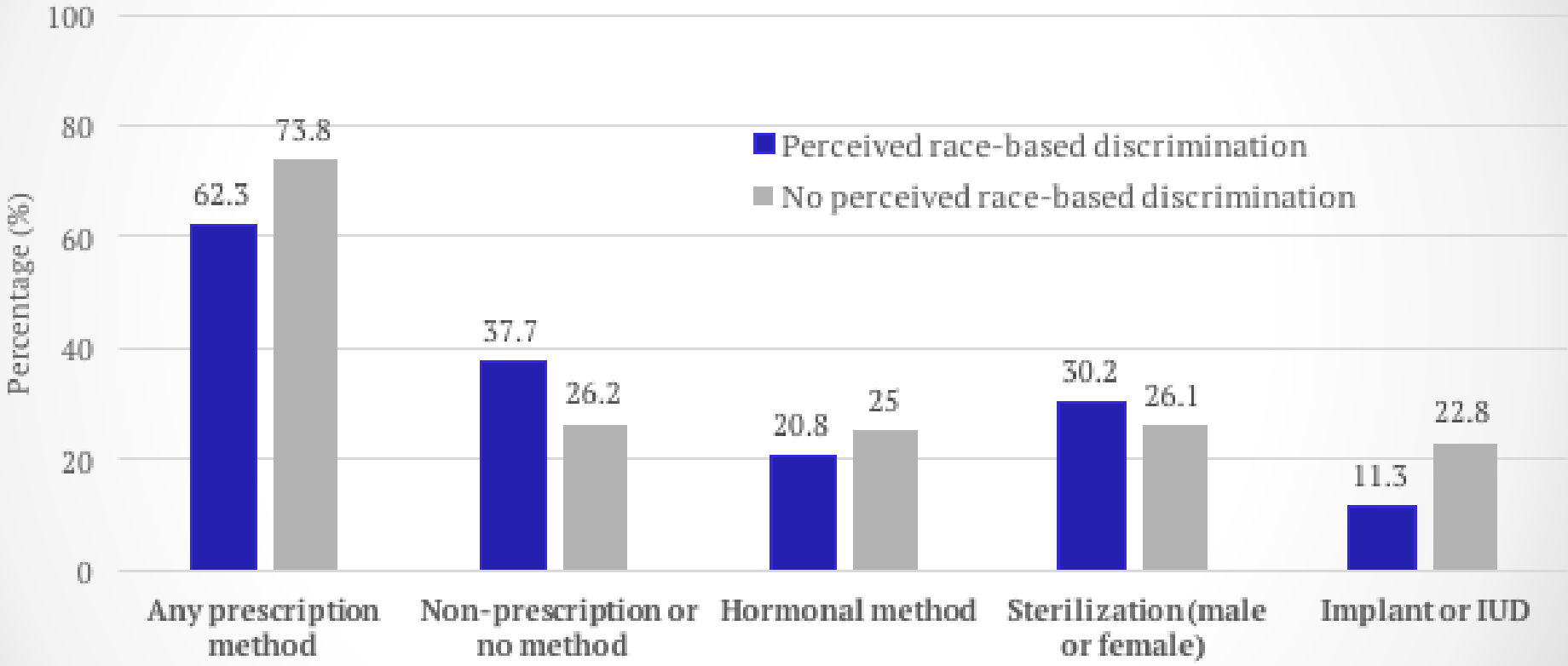
Perceived discrimination at VA

Perceived Race-Based Discrimination	**NH White**	**NH Black**	**Hispanic**	**NH Other**
When getting health care at the VA, how often have you…because of your race or color?	**N=702**	**N=373**	**N=169**	**N=97**
…been treated with less courtesy…	2.6%	2.7%	4.7%	8.3%*
…been treated with less respect…	2.1%	2.7%	4.1%	6.2%
…received poorer service…	1.4%	2.4%	3.6%	3.1%
…had a doctor/nurse act as if you were not smart…	1.0%	4.1%	4.8%	4.1%*
…had a doctor/nurse act as if they were afraid of you…	0.3%	2.1%	0.6%	1.0%*
…had a doctor/nurse act as if they were better than you…	1.7%	5.4%	3.6%	4.1%*
…felt like a doctor/nurse was not listening to you…	1.6%	6.4%	5.3%	4.1%*
% reporting any of the above	**4.4%**	**11.3%**	**11.2%**	**14.4%***

**p-value <0.05 using Fisher's exact test*

MacDonald: *Medical Care*, 2017

Contraception use by perceived discrimination



P=0.01

p=0.006 for method types

MacDonald: *Medical Care*, 2017

Conclusions/Implications

- Minority women Veterans more likely to have unintended pregnancies and less likely to use prescription contraception
- Knowledge, preferences, and perceived discrimination may contribute to these patterns
- Patient-centered contraceptive counseling should:
  - Ensure women have accurate info about options
  - Recognize diversity in women's preferences
  - Help women align "informed" preferences w/choices
  - Emphasize respectful communication to meet the needs of a diverse population

What about vulnerable populations?

1. Racial/ethnic minorities
2. **Women with chronic medical conditions**
3. Women with mental illness

Chronic medical conditions

- Medical comorbidities common among reproductive-aged women Veterans
- Many common conditions are contraindications to estrogen-containing contraception
- No data on screening practices for contraindications *before* prescription of estrogen-containing methods
- No data on contraceptive use patterns among women Veterans with medical contraindications

Poll question #3

- What percentage of reproductive-aged women Veterans have one or more contraindications to using estrogen?

1. 10%
2. 15%
3. 20%
4. 25%

Prevalence of contraindications to estrogen among women Veterans at risk for unintended pregnancy

	n(%)
No Contraindications	**871 (74.5)**
Any Contraindication (≥ 1)	**298 (25.5)**
Hypertension	174 (14.9)
Smoker > 35 yo	86 (7.4)
Thromboembolism/clot	35 (3)
Migraine with aura (ICD9)	26 (2.2)
Stroke	9 (0.8)
Coronary Artery Disease	4 (0.3)
Breast Cancer	3 (0.3)
Total	1,169 (100)

Judge, oral presentation at the Society of General Internal Medicine meeting, 2017

Contraceptive use by contraindication status

	Estrogen use Among contraceptors N=1010	**Non-use** All women N=1140
	aOR (95% CI)*	aOR (95% CI)*
Contraindications vs. none	**0.67 (0.45, 0.99)**	**1.74 (1.14, 2.66)**

*Adjusted for age, race/ethnicity, marital status, income, insurance status (VA only vs. dual), parity and provider gender, n = 1010

Judge, oral presentation at the Society of General Internal Medicine meeting, 2017

Conclusions

- **1 in 4** women Veterans at risk for unintended pregnancy have a contraindication to estrogen
- Women Veterans with contraindications are less likely to use estrogen-containing methods but more likely to lack a method
- Future work needed to better understand contraceptive decision making and counseling among medically complicated Veterans

What about vulnerable populations?

1. Racial/ethnic minorities
2. Women with chronic medical conditions
3. **Women with mental illness**

Poll question #4

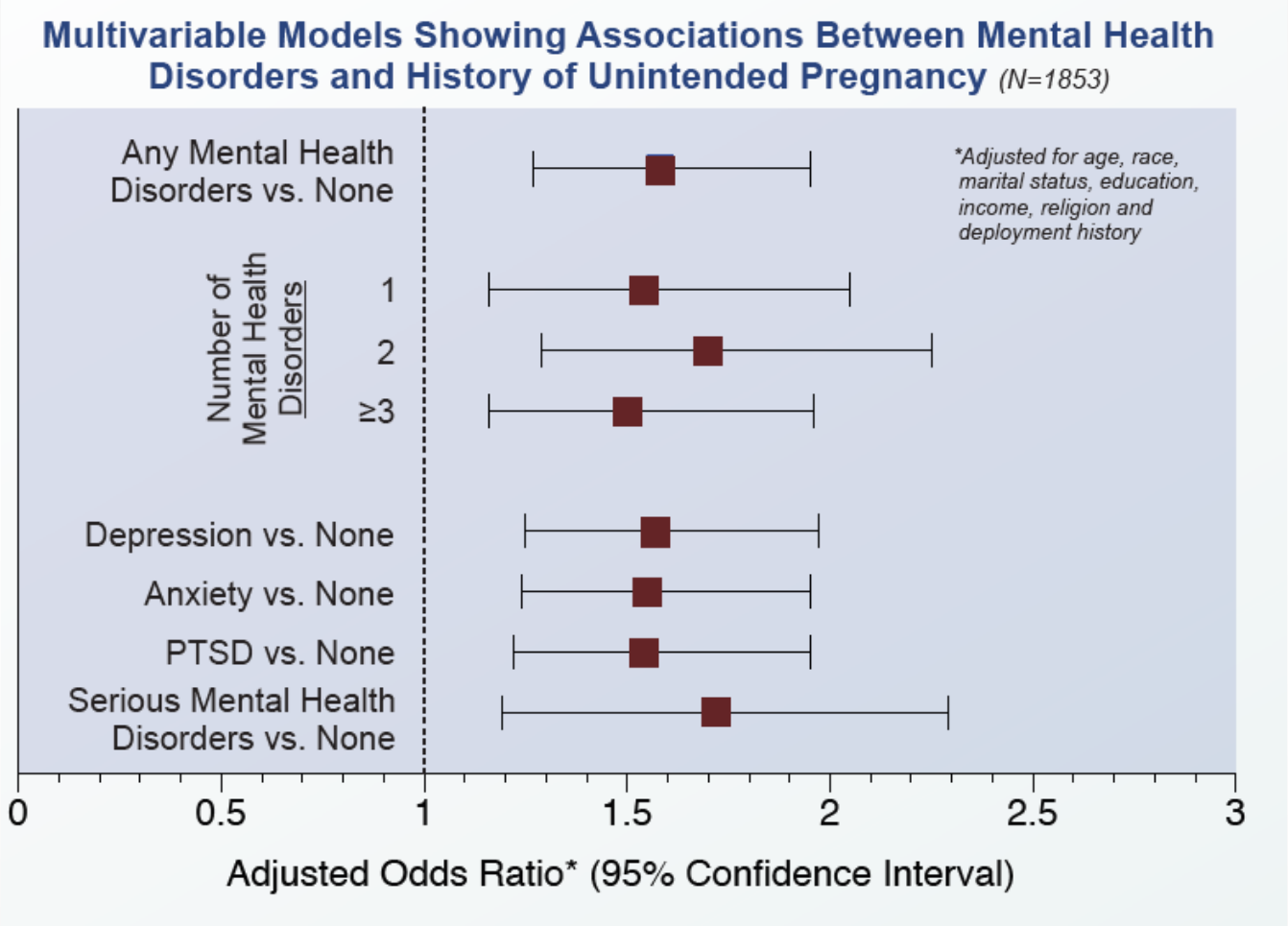
- What is the proportion of reproductive-aged women Veterans who report having been diagnosed with or treated for mental illness?

1. 35%
2. 52%
3. 69%
4. 85%

Mental health conditions

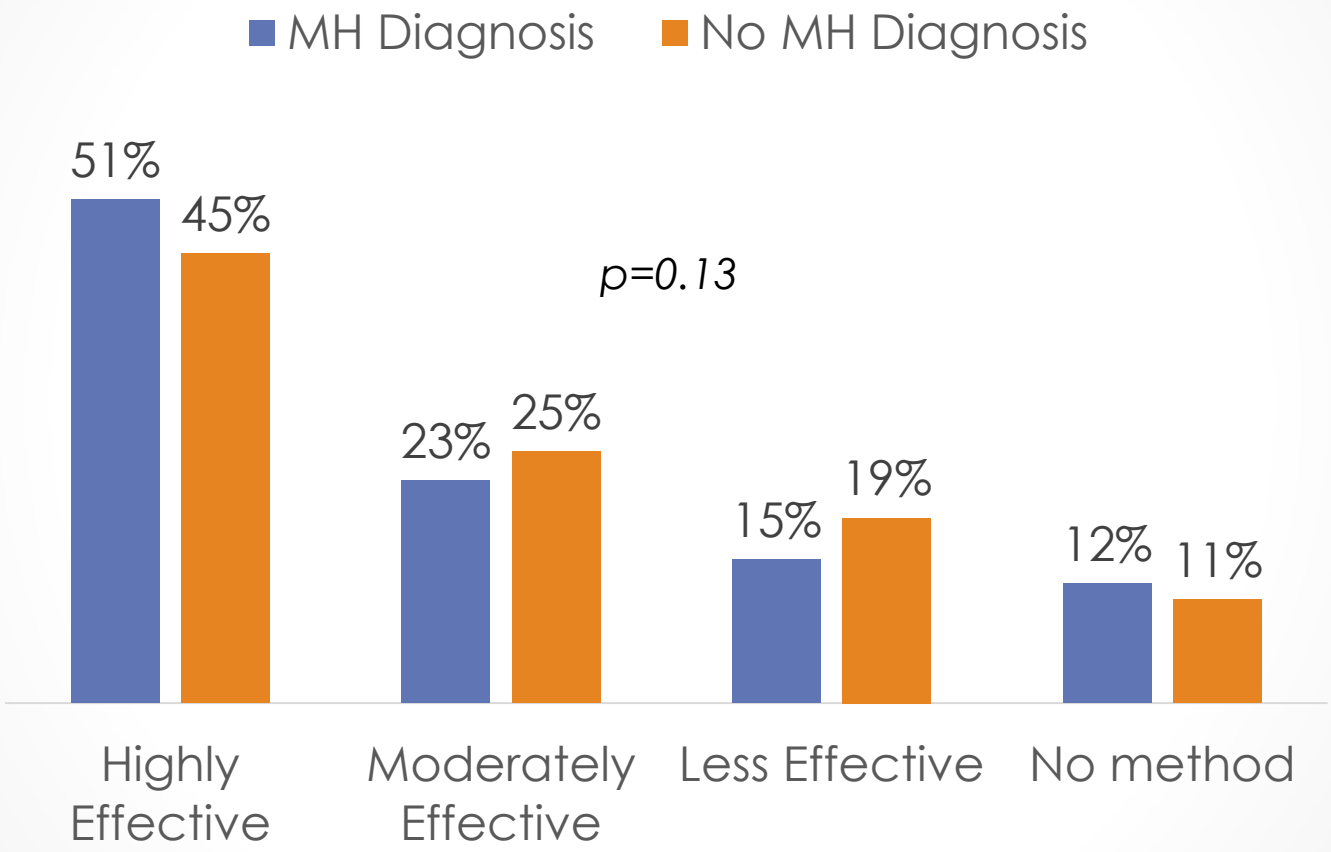
- High prevalence of self-reported mental illness in ECUUN
  - **69% of women ≥1 mental health condition**
  - 48% Depression
  - 50% Anxiety
  - 41% PTSD
  - 10% Serious mental illness (bipolar disorder or schizophrenia)
- Limited data on associations of mental health disorders with contraception or unintended pregnancy

Mental health & unintended pregnancy



Callegari, poster presentation at the North American Forum on Family Planning, 2015

Mental illness and current contraceptive use



Conclusions/Implications

- Women with a history of mental health conditions more likely to have unintended pregnancy
- Differences may reflect lower adherence or historical contraceptive use not captured in ECUUN data
- Further prospective studies needed to understand role of mental health conditions in contraceptives use and unintended pregnancy

Callegari, poster presentation at the North American Forum on Family Planning, 2015

Summary

- VA's efforts to provide comprehensive contraceptive care have resulted in successes, such as making LARC available to Veterans
- Despite this, over 30% of women Veterans' pregnancies are unintended, similar to general population
- Vulnerable Veteran populations face increased risk of unintended pregnancy and have specific needs that can be addressed with patient-centered care

Future directions and clinical implications

- Next steps include translate ECUUN findings to help VA function as a learning healthcare system
  - How should resources be allocated to best address gaps in care?
  - Innovative interventions and technologies needed to promote high-quality, patient-centered reproductive counseling and care

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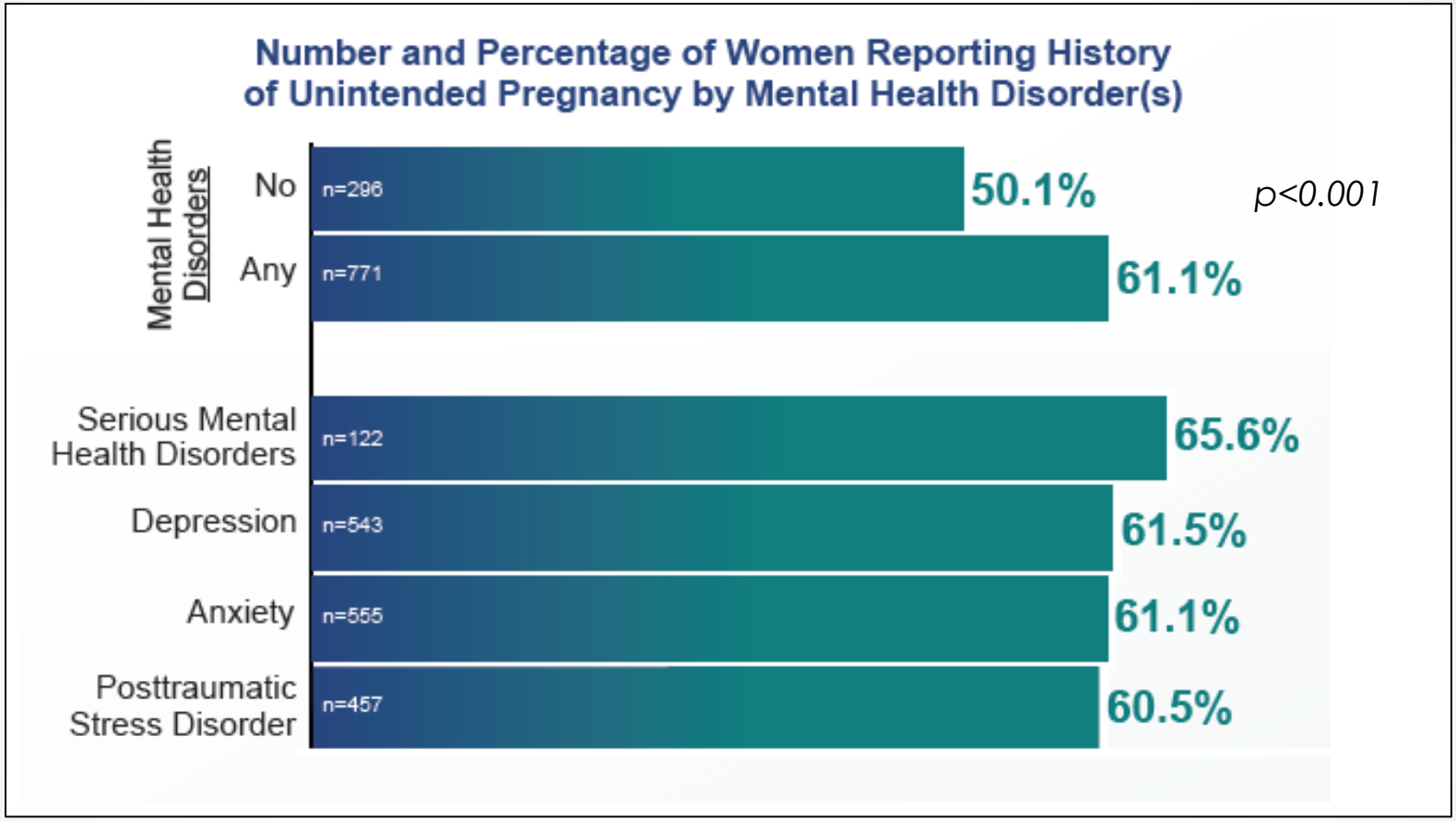
Contraceptive use

	ECUUN sample (n=2,302)	Age adjusted US population
Using contraception (contraceptors)	**62.3**	**68.4**
Highly effective methods	**34.4**	**38.3**
Female sterilization	12.5	21.7
Male sterilization	6.0	8.4
Intrauterine device	13.6	7.6
Implant	2.2	0.5
Moderately effective methods	**17.4**	**16.5**
Pill	11.2	13.6
Patch or ring	2.9	1.4
3-month injectable (Depo-Provera™)	3.3	1.6
Least effective methods	**9.5**	**13.4**
Condoms	6.0	8.7
Natural family planning	1.4	1.1
Withdrawal	1.8	3.3

VA Contraceptive Use

Variable	% of women with unmet contraceptive need	p-value
Race/ethnicity		**0.046**
White	25.3	
Racial/ethnic minority	30.5	
Presence of medical illness		0.25
Yes	26.3	
No	29.3	
Presence of mental illness		0.42
Yes	26.9	
No	29.2	
History of military sexual trauma (MST)		0.58
Yes	27.0	
No	28.5	

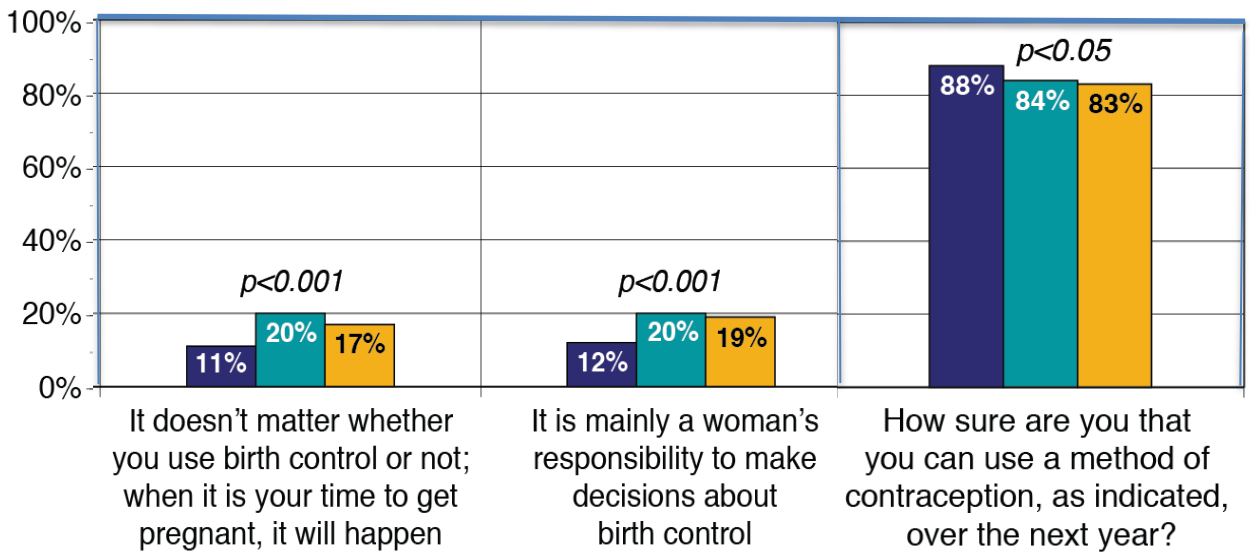
Mental health and unintended pregnancy



Callegari, poster presentation at the North American Forum on Family Planning, 2015

Racial/ethnic differences in beliefs/self-efficacy

Beliefs **("strongly agree") &** ***Self-Efficacy*** **("very sure) by Race/ Ethnicity**



Adjusted OR (95% CI)*			
White	**Ref**	**Ref**	**Ref**
Black	**1.8 (1.4, 2.4)**	**1.9 (1.5, 2.6)**	**0.7 (0.5, 0.98)**
Hispanic	**1.5 (1.0, 2.2)**	**1.8 (1.2, 2.5)**	**0.7 (0.5, 0.96)**

*Adjusted for age, marital status, income, education, parity, deployment history, medical condition, and mental health condition

Callegari: *AJOG*, 2017