The Military Health System & Health Equity

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CHSR

Uniformed Services University

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Disclosures

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- **Conflicts of Interest:** No conflicts of interest to disclose

Agenda

- The Military Health System
- Racial Disparities in the MHS
- Recent Studies of Disparities
- Future Directions

THE MILITARY HEALTH SYSTEM

About the Military Health System (MHS)

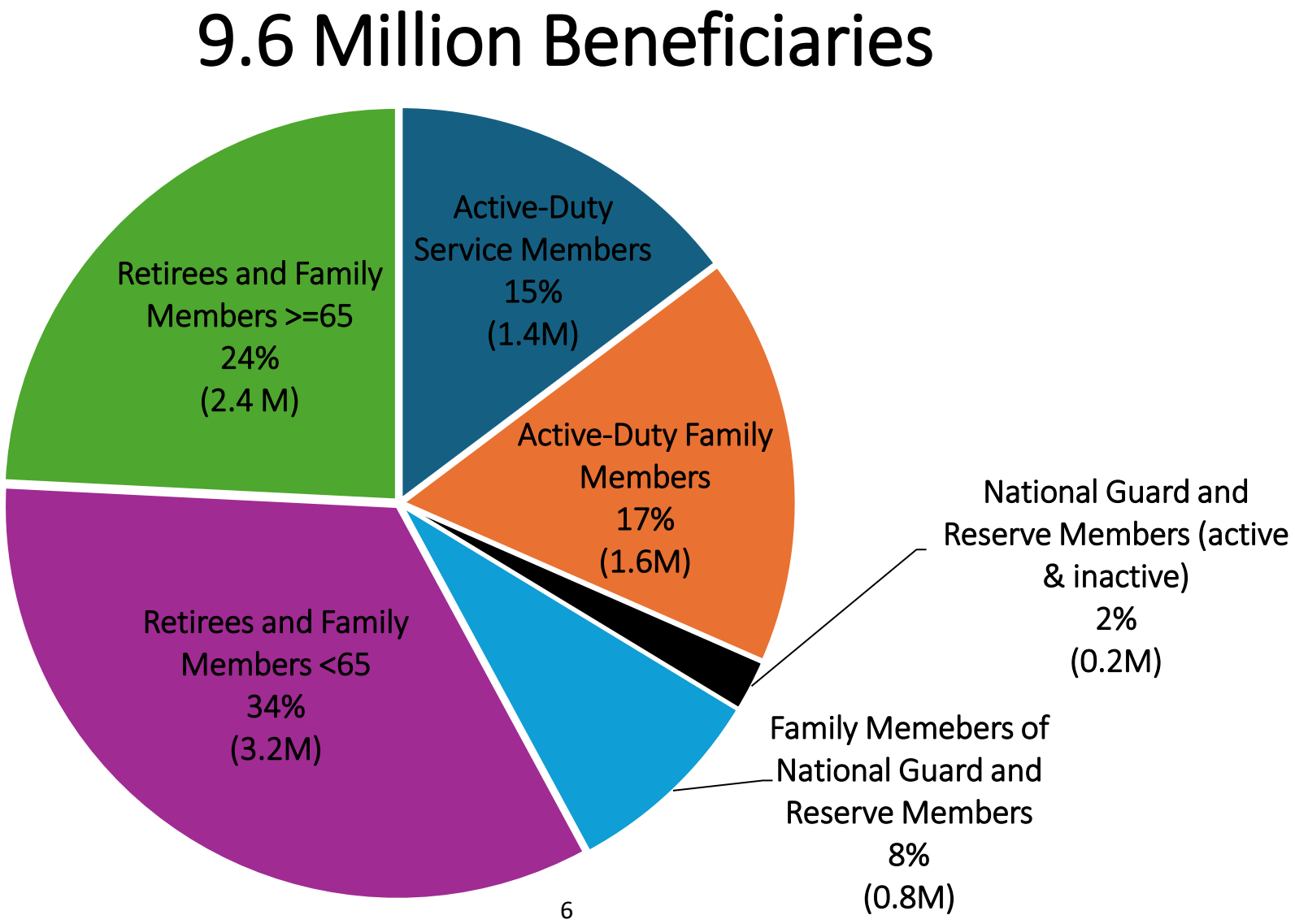
- The purpose of the MHS is to support **medical readiness**

  by providing a:
  - Medically ready force
  - Ready medical force
- The MHS provides care to **9.6 million beneficiaries**

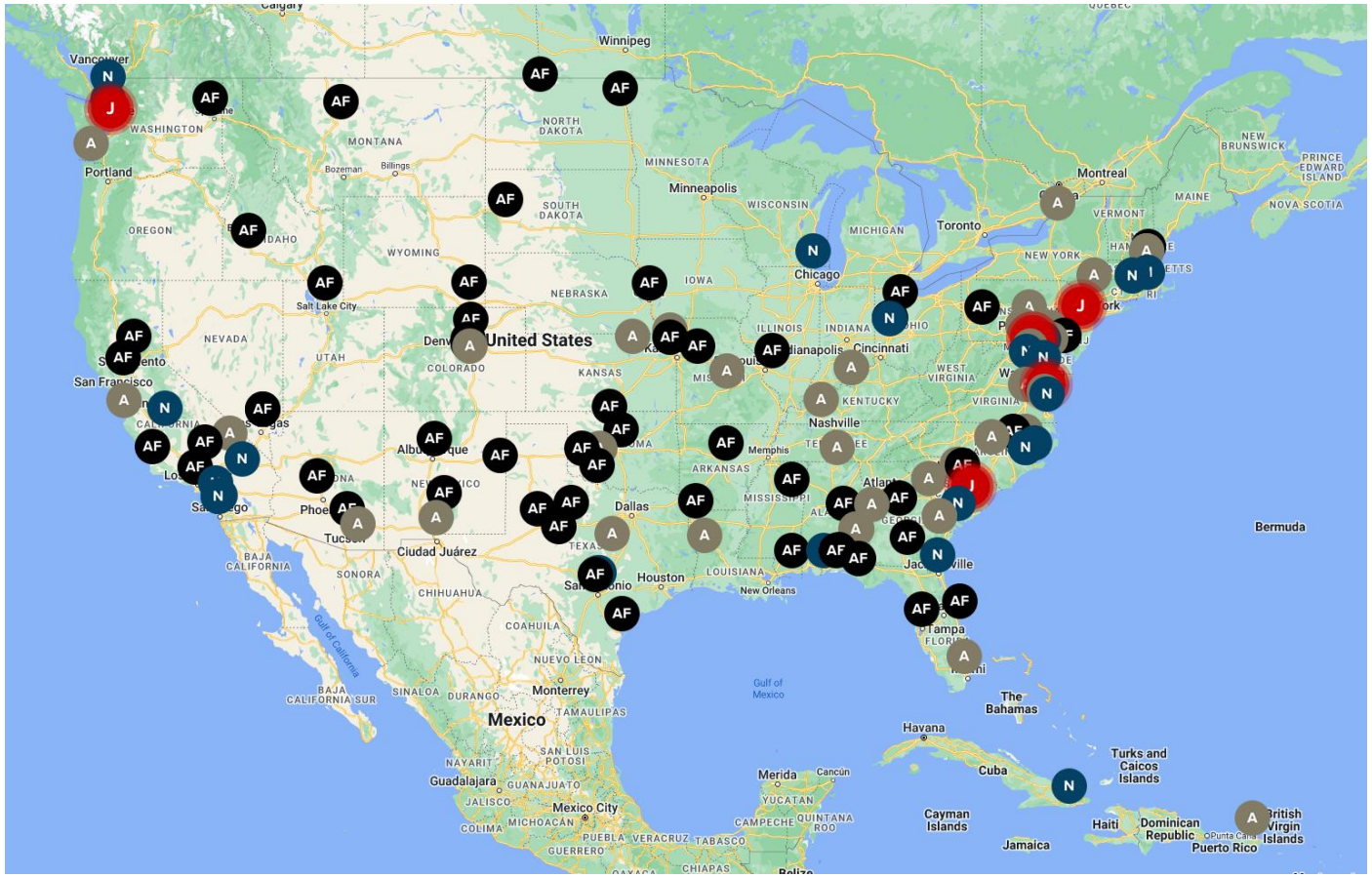
  through its TRICARE program

- Health care services are available through:
  - **Direct Care:** DoD-operated hospitals & clinics – Military Treatment Facilities (MTFs)
  - **Purchased Care:** Civilian facilities & providers that participate in TRICARE

Who Does MHS Serve?



Where Does MHS Provide Care?



- **System Composition:**
  - 149,116 personnel (84,104 military / 65,012 civilians)
  - 49 Inpatient hospitals & medical centers (32 in US)
  - 465 Ambulatory care & Occupational health clinics (373 in US)
  - 192 Dental clinics (149 in US)
  - 250 Veterinary facilities (185 in US)
  - 554,439 Network providers
  - 3,789 TRICARE network acute care hospitals
  - 803 Behavioral health facilities
  - 58,142 Contracted (network) retail pharmacies
- **Overseas locations**: Japan/Okinawa; Korea; Guam; Spain; Italy; Germany; UK
- Deployed Facilities

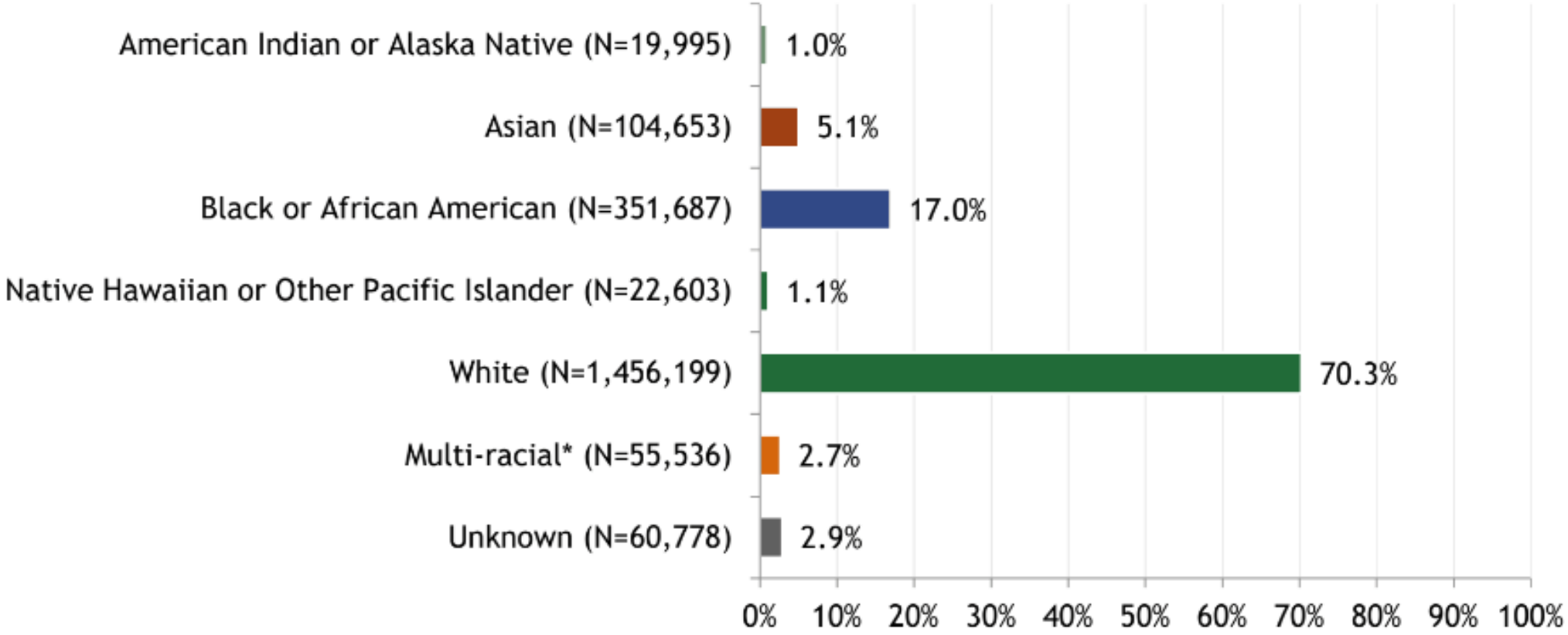
RACIAL DISPARITIES IN THE MHS

Racial Disparities

- Well-documented across multiple areas of care in the US
- Minority patients consistently have worse outcomes than white patients despite adjusting for condition severity, comorbidities, & socioeconomic variables
- Universal insurance is a commonly-proposed solution

Source: Getty Images – Olivier Douliery/Agence France-Presse

Racial Demographics of All Active-Duty Service Members, 2022



Source: 2022 Demographics Profile of the Military Community

Model of Disparities

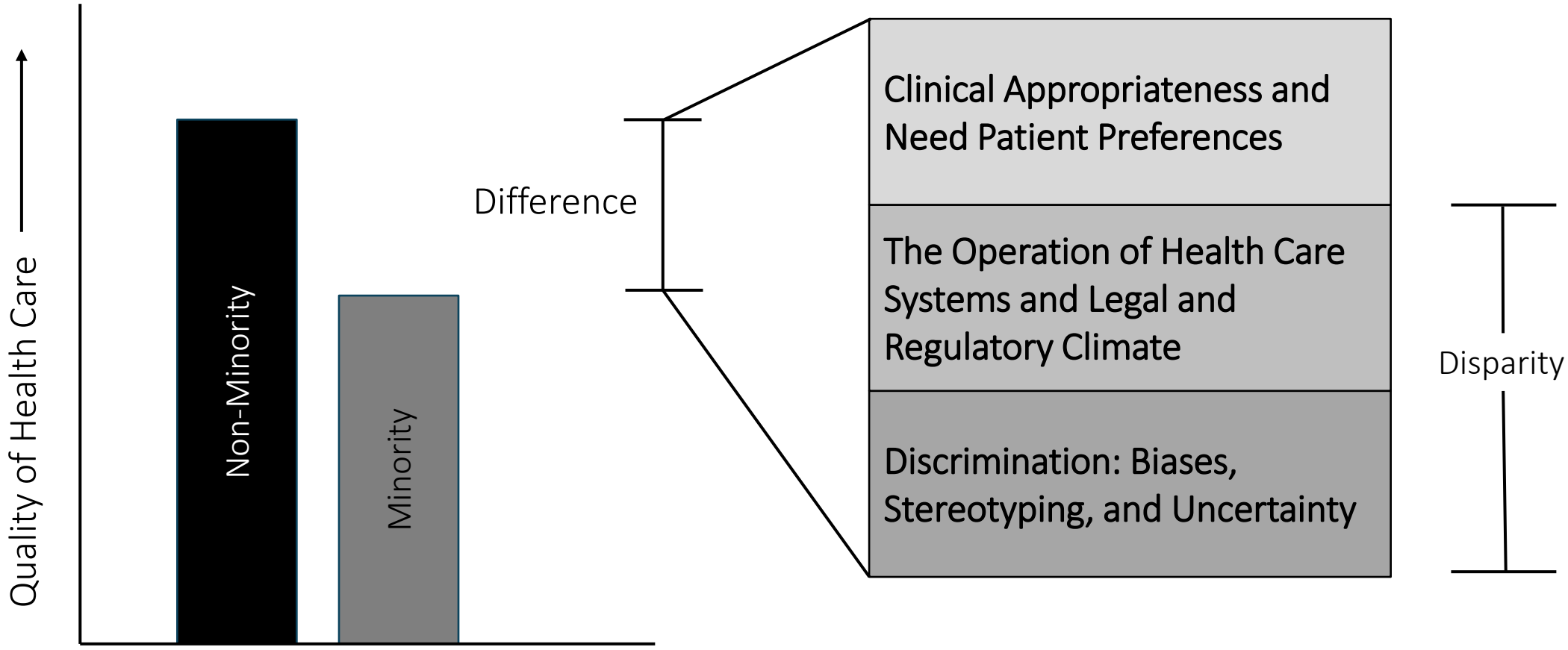
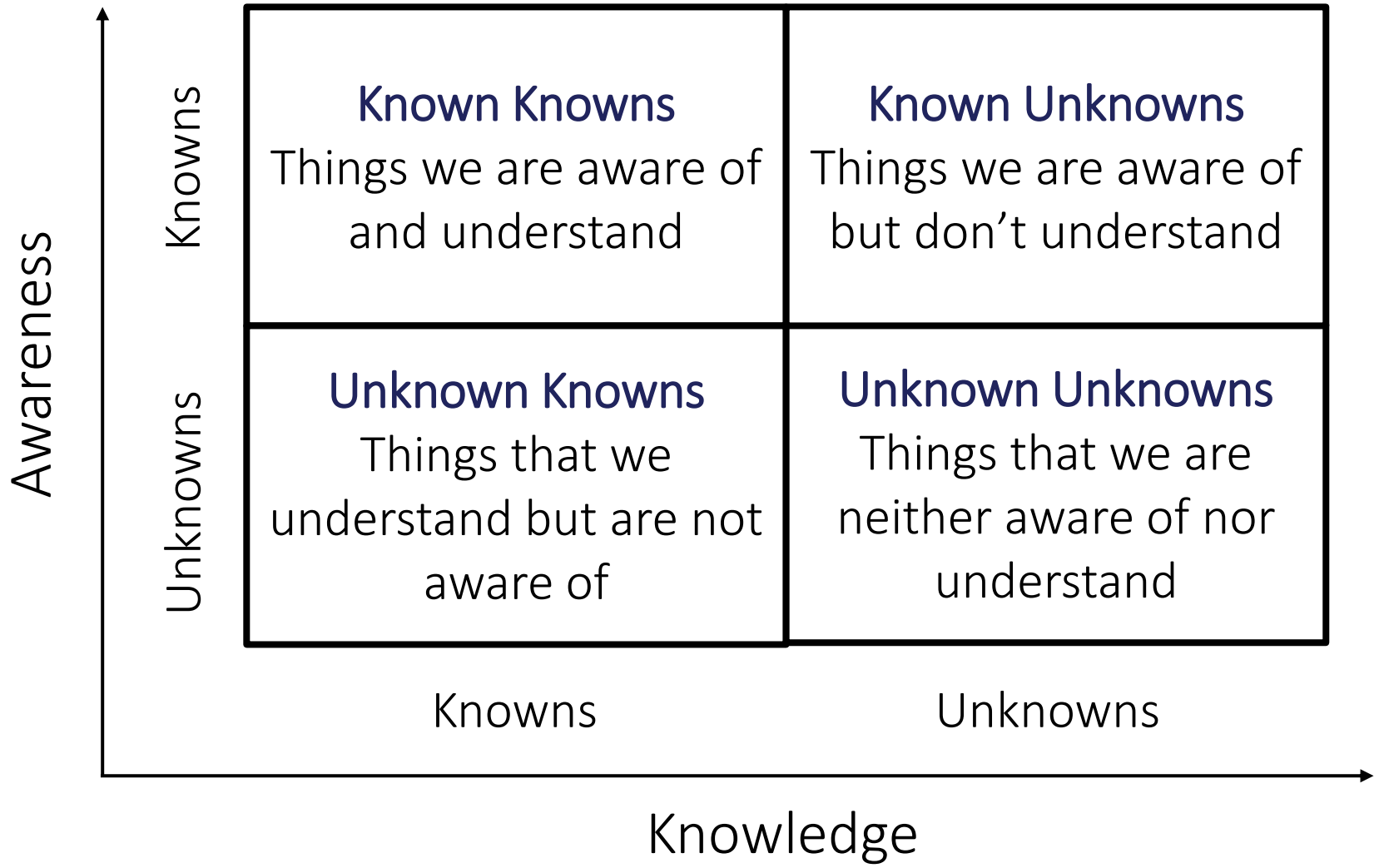


Figure 1. The Institute of Medicine's Definition of Racial/Ethnic Health Care Disparities Source: Institute of Medicine (2002).

The Johari Square Approach



MILITARY MEDICINE, 187, 9/10:e1114, 2022

Racial Disparities in the Military Health System: A Framework Synthesis

Tracey Pérez Koehlmoos, PhD, MHA; Jessica Korona-Bailey, MPH*,†; Miranda Lynn Janvrin, MPH*,† Cathaleen Madsen, PhD, MHA*,†*

ABSTRACT

Introduction:

Racial disparities in health care are a well-documented phenomenon in the USA. Universal insurance has been suggested as a solution to mitigate these disparities. We examined race-based disparities in the Military Health System (MHS) by constructing and analyzing a framework of existing studies that measured disparities between direct care (care provided by military treatment facilities) and private sector care (care provided by civilian health care facilities).

Materials and Methods:

We conducted a framework synthesis on 77 manuscripts published in partnership with the Comparative Effectiveness and Provider-Induced Demand Collaboration Project that use MHS electronic health record data to present an overview of racial disparities assessed for multiple treatment interventions in a nationally representative, universally insured population.

Tracey Pérez Koehlmoos, Jessica Korona-Bailey, Miranda Lynn Janvrin, Cathaleen Madsen, Racial Disparities in the Military Health System: A Framework Synthesis, *Military Medicine*, Volume 187, Issue 9-10, September-October 2022, Pages e1114–e1121, https://doi.org/10.1093/milmed/usab506

disparities have recently been highlighted during the novel Coronavirus Disease 2019 pandemic during which racial and ethnic minorities were disproportionately affected compared to White persons in part due to structural racism.[2] In the USA, racial and ethnic disparities are a well-documented phenomenon persisting across multiple areas of care.[3–8] Universal insurance is often suggested as a means of mitigating disparities by ensuring that all persons have equal access to

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doi:https://doi.org/10.1093/milmed/usab506

parities in guaranteed-access health systems and the factors driving those disparities remain understudied.

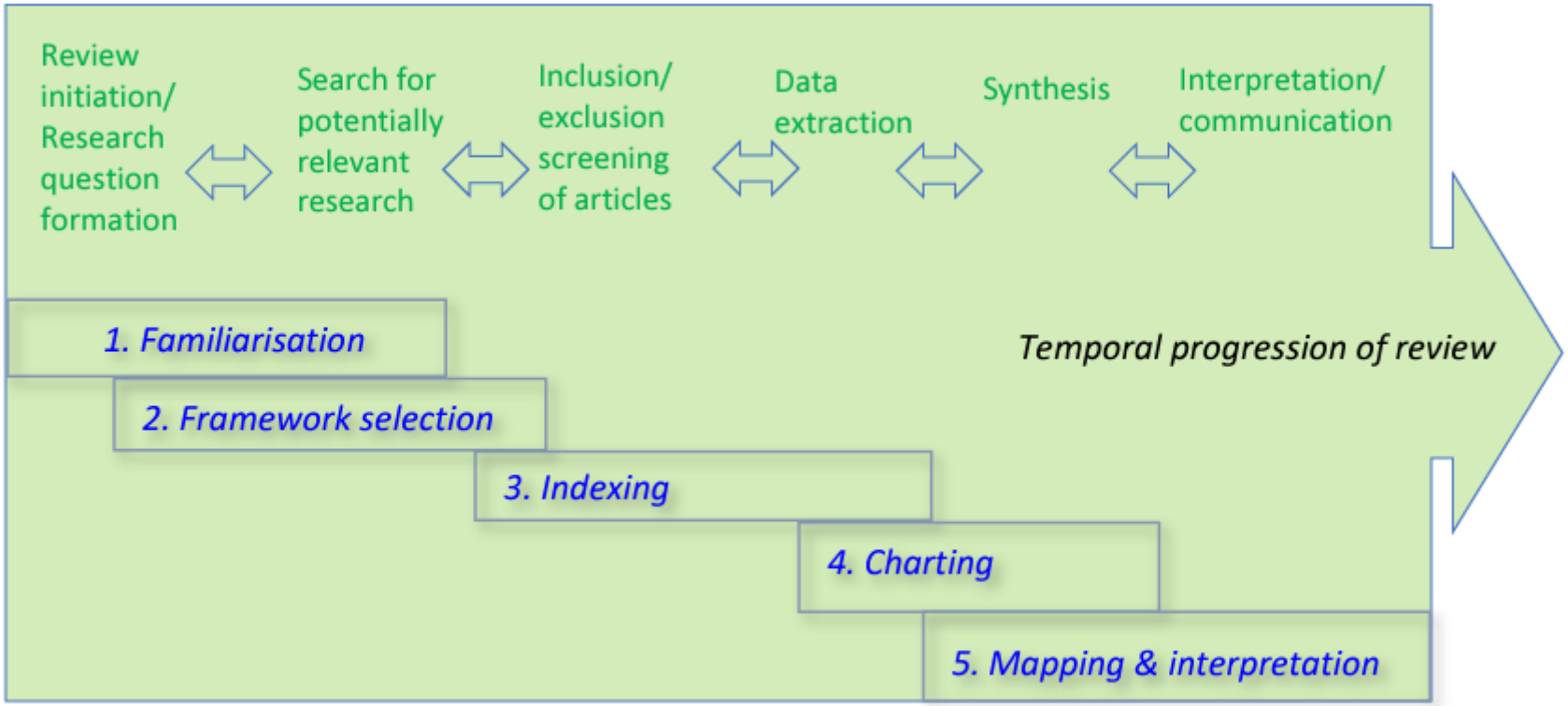
The U.S. Military Health System (MHS) presents a unique opportunity for the study of health care disparities. The MHS is made up of 149,116 personnel (84,104 military and 65,012 civilian) and infrastructure from the Army, Air Force, Navy, Defense Health Agency, and the Office of the Assistant Secretary of Defense (Department of Defense).[14] It is responsible for ensuring the health and force readiness of U.S. military personnel, serving approximately 9.6 million beneficiaries, of whom approximately 17% are active duty service members. The majority are non active duty, dependents, and retirees.[15] Previous studies have found that the TRICARE population is representative of the U.S. population.[16–18] Providing universal coverage, beneficiaries receive care in two environments: direct care, provided at military treatment facilities at no cost to the patients; and private sector care, provided at TRICARE-affiliated civilian facilities, for a nominal co-pay for some members based on beneficiary category. The Department of Defense spends approximately 10% of its annual budget on health care, which is considerably less than that spent by civilian employers subsidizing employee

Framework Synthesis of Racial Disparities in the MHS

- We conducted a framework synthesis by reviewing 77 publications from the Comparative Effectiveness & Provider Induced Demand Collaboration (EPIC) with publication dates from 2006-2021
  - Inclusion Criteria: Manuscript directly assesses racial disparities within the MHS as a primary or secondary outcome
  - Exclusion Criteria: Manuscript considers race solely for demographic information

Framework Synthesis vs. Systematic Review

Systematic review processes *(Gough et al. 2012)*



Stages of Framework synthesis method *(Ritchie et al. 2014)*

Data Collection & Synthesis

Reviewers extracted data relating to the following:

- Years of data analysis
- Year of publication
- Question(s) addressed by paper
- System of focus
- Disparity of interest
- MHS component assessed (direct care vs. private sector care)
- Sample characteristics
- Methods of statistical analyses
- Results
- Indication of whether disparity was mitigated
- Disparity mode of discovery (primary vs. secondary outcome)

Results – Included Studies

- 32 manuscripts met inclusion criteria
- Thematic Summary
  - Surgery = 9*
  - Trauma = 7*
  - Women's Health = 5
  - Screening = 4
  - Opioids = 5*
  - Diabetes readmission = 1
  - Health System Comparison with MHS = 2

* Overlap between opioids, trauma, & surgery

Mitigation of Disparities in Direct and Private Sector Care in the MHS

	Direct Care	Private-sector Care	Both
Women's health			
Potentially avoidable maternal complications	✓	X	
Minimally invasive hysterectomy			X
Laparoscopic treatment of ectopic pregnancy	✓	X	
Mental health diagnosis during pregnancy			X
Screening			
Colorectal cancer			✓
Prostate cancer			✓
Breast cancer			✓
Cervical Cancer	✓		
Opioids			
Opioid discontinuation			X
Opioid Rx			X
Pediatrics			
Pediatric osteomyelitis treatment	✓	X	
Pediatric fractures			X
Pediatric trauma Care			✓
Adolescent Mental Health Diagnoses			X
Surgery			
Post CABG Surgery Care			✓
Trauma Care			✓
Duration of stay after CABG for men	✓	X	
Post-operative outcomes			✓
Adult perforated appendix readmission rates			✓
Emergency general surgery			✓
Colorectal Surgery			✓
Other			
Carotid artery stenosis treatment			X
Soft tissue sarcoma treatment			✓
Diabetes readmissions			X
Patient driven management of prostate cancer			X
Cost of care for combat injuries			X
Polytrauma Triad			X
Low back pain			X
Mental health in combat injuries			X

✓ = racial disparity mitigated
X = racial disparity persists

Discussion

- Of 32 studies included in the review, 15 studies demonstrated mitigation of racial disparities in the MHS
  - Particularly in the areas of surgery, trauma, & screening
- Mitigation more common in Direct Care
- Care in both settings is provided through the same payment vehicle
  - Insurance alone not sufficient to eliminate disparities

RECENT STUDIES OF DISPARITIES

Telehealth

- Cross-sectional study of TRICARE Prime beneficiaries who received telehealth services from Jan 2020-Dec 2021 in the MHS using MHS Data Repository (MDR)
- No racial disparities observed for telehealth usage in the MHS

Source: Adobe Stock Images

Safko J, Banaag A, Madsen C, Koehlmoos T. Analysis of Telehealth Equity Within the Military Health System During the COVID-19 Pandemic. Telemed J E Health. 2024 Jan;30(1):85-92. doi: 10.1089/tmj.2023.0059.

Highly Effective Contraceptives (HECs)

- Cross-sectional study of ADSW ages 18-45 from 2016-2019 using MDR
- Black ADSW had lower odds of HEC use vs. White ADSW

Source: Health.mil, Joint Base San Antonio-Fort Sam Houston

Barnhart HM, Banaag A, Koehlmoos TP. Racial Disparities in Highly Effective Contraceptive Use Among U.S. Active Duty Servicewomen, Fiscal Years 2016-2019. J Womens Health (Larchmt). 2024 Mar 28. doi: 10.1089/jwh.2023.0735.

Alcohol Use (AU) & Alcohol Use Disorder (AUD)

- Cross-sectional study of ADSW 18+ from 2016-2021 using MDR
- Black ADSW had higher odds of AUD both before & during the COVID-19 pandemic vs White ADSW
  - The association was stronger in the during COVID-19 pandemic period

Source: Getty Images
Photo Credit: Peter Dazeley

Tower S, Banaag A, Adams RS, Janvrin ML, Koehlmoos TP. Analysis of Alcohol Use and Alcohol Use Disorder Trends in U.S. Active-Duty Service Women. J Womens Health (Larchmt). 2024 Apr 29. doi: 10.1089/jwh.2023.0497.

FUTURE DIRECTIONS

Future Directions

- Despite the success of the MHS in mitigating many disparities in health care, more work is needed
- CHSR has identified four immediate targets for future research:
  - Conducting a comprehensive systematic review of racial disparities
  - Creation of an evidence gap map to identify current unknown knowns
  - Comparison of race/ethnicity of providers to race/ethnicity of beneficiaries
  - Development of a more diverse provider force

Under-Represented Minority USUHS Graduate Military & Career Outcomes

- Data used from the Long-Term Career Outcome Study (LTCOS) conducted by USU
- Statistical analysis was conducted to determine differences in career & military achievements for Under-Represented Minority (URM) and non-URM graduates
- Few statistically significant differences were found, however significant associations were found in some key areas for building pathways to leadership roles—
  - Rank
  - Deployment experience
  - Publication in peer-reviewed journals

First Steps: Patient Provider Racial Concordance

- Open cohort study of female ADSW during both Oct 2016-Feb 2020 & Mar 2020-Sept 2022 & environmental scan of MHS provider demographic information
- Our analysis indicates an increase in the need for mental health services among Black ADSW during the COVID-19 period
- Our environmental scan was unable to indicate whether the MHS is currently able to provide racially concordant mental health care

Connect with CHSR

- Join the HSR Interest Group (presentation opportunities available)
- Attend an upcoming workshop
- Partner with us on investigating racial disparities in the MHS
- Check out our website: www.chsr.usuhs.edu
- Follow us on Twitter/X

@CHSR_USU

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Get the latest information about our ongoing research, upcoming meetings & workshops, & all other things health services research at USU.

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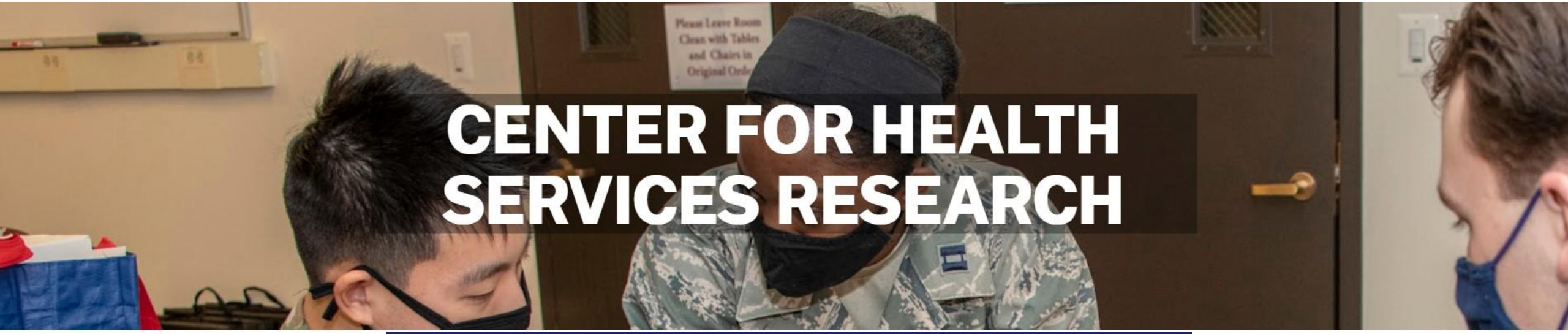

Questions

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Racial Disparities in Perinatal Outcomes in Active-Duty Service Women in the U.S. Military Health System

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What do these two women have in common?

Source: https://www.popsugar.com/beauty/photo-gallery/45500148/image/45500291/Beyonc%C3%A9-Cover-Vogue

- Black
- Physically fit
- Highly successful
- Wealthy
- Access to maternal care
- Had life threatening pregnancy complications

Source: https://abcnews.go.com/US/serena-williams-us-open-bodysuit-turns-heads-win/story?id=65216337

Background

An adverse perinatal outcome is **a change in health status to the women or fetus** between 22 weeks of gestation to 7 days postpartum

i.e. Low birth weight, postpartum hemorrhage, high risk pregnancy, cesarean birth, etc.

Rate of adverse perinatal outcomes have drastically increased for all racial, ethnic, and age groups

Source: https://www.908aw.afrc.af.mil/News/Article-Display/Article/173554/prenatal-care-critical-for-wing-families/

Active-Duty Service Women (ADSW)

All ADSW have

- equal pay by rank
- Universal Healthcare insurance, and
- Universal access to healthcare under the Military Health System (MHS)

Required to be in similar levels of peak physical fitness

Source: https://www.rand.org/pubs/research_briefs/RBA1031-1.html

Purpose of Study

Determine the prevalence of perinatal outcomes among U.S. active-duty service women during FY 2016-2019.

Determine if racial and socioeconomic disparities exist in perinatal outcomes among active-duty service women during FY 2016 to 2019.

https://newsroom.tricare.mil/News/Market-News/Article/3130055/after-dobbs-decision-department-of-defense-provides-qa-resource

Methods

Study Population: Females aged 18-45 on active-duty status in the U.S. Army, Air Force, Navy, & Marine Corps

Study Design: Retrospective cross-sectional study of all deliveries, at least 40 weeks apart, by ADSW during fiscal years (FYs) 2016-2019

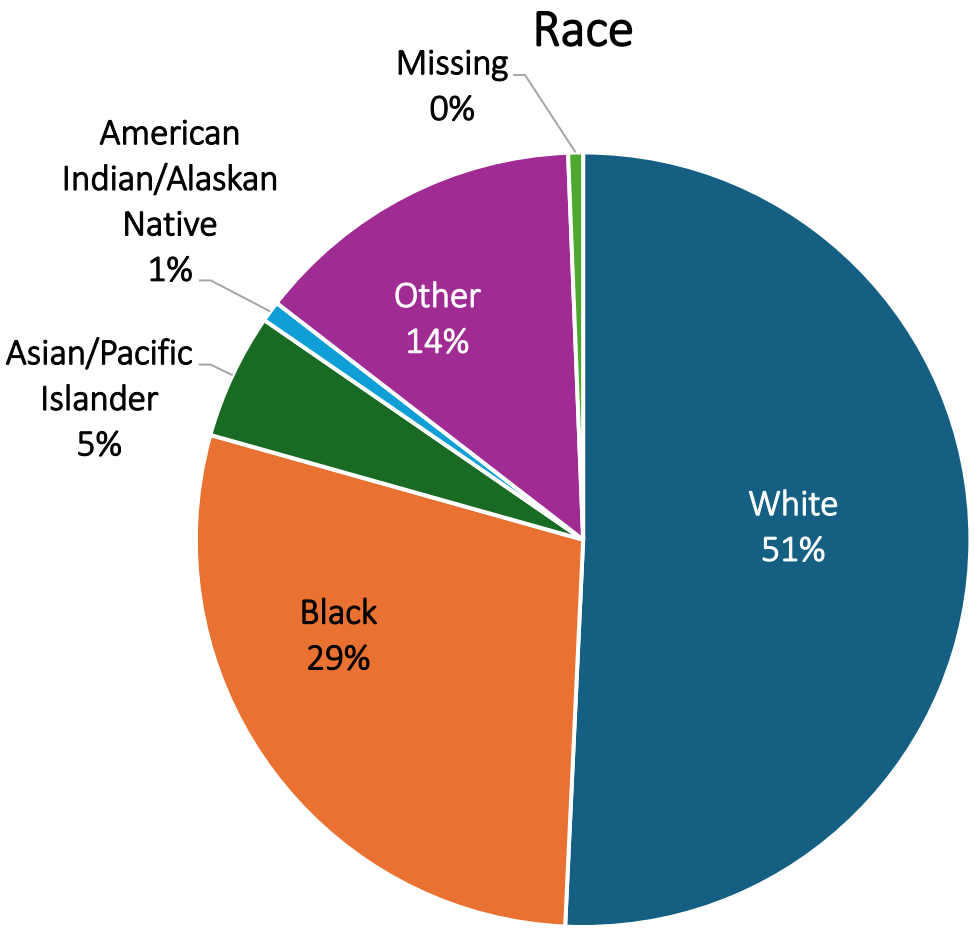
Data source: Military Health System Data Repository (MDR)

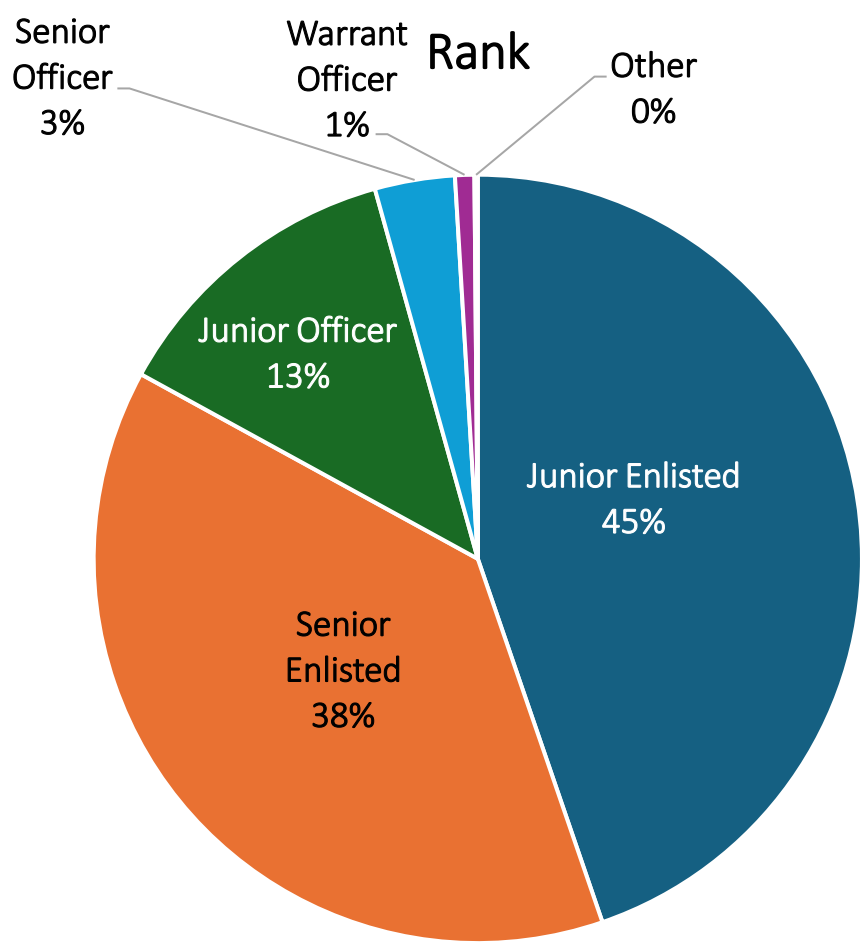
Outcomes of interest: 13 perinatal outcomes

Analysis: Descriptive statistics, Chi-Square tests, Binomial Poisson Regressions assessing for racial and socioeconomic disparities

Results

- 128,666 deliveries between FY 2016-2019 by 84,319 ADSW

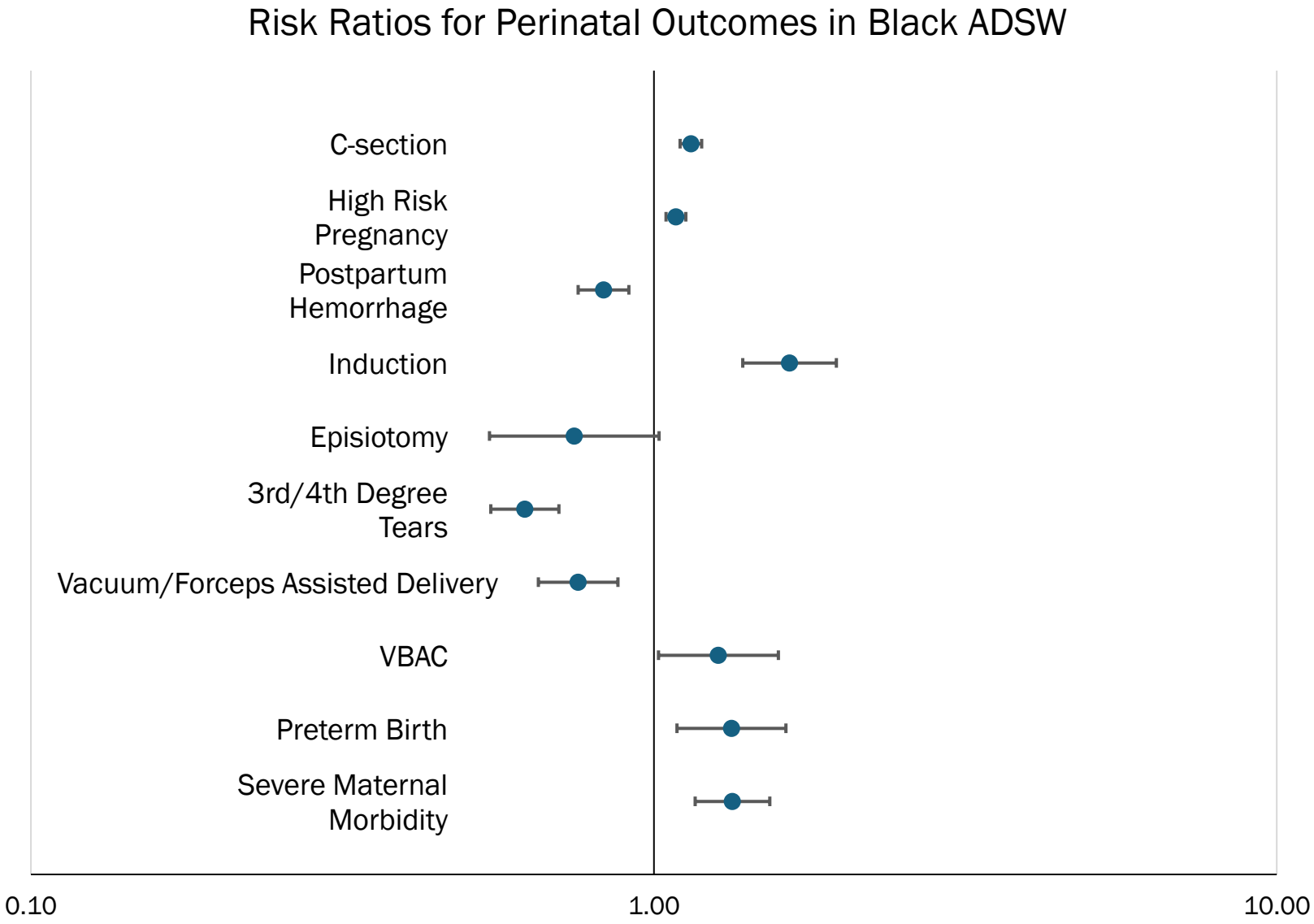




Prevalence of Perinatal Outcomes

Perinatal Outcome	n	% of Deliveries	US Rates (%)
High risk pregnancy	16778	13.04	14.4
Cesarean Birth	13560	10.54	32.1
Postpartum Hemorrhage	2769	2.15	4.3
3rd/4th Degree Tears	1768	1.37	4.4
Vacuum/Forceps Assisted Delivery	1139	0.89	2.4
Severe Maternal Morbidity	1100	0.85	1.80
VBAC	436	0.34	14.6
Episiotomies	257	0.2	4.6

Adjusted Poisson Regressions



Note: All comparisons against White ADSW. All models adjusted by categorical age, marital status, branch of service, and maternal comorbidities.

Results

- Black ADSW have higher risk for cesarean birth, high risk pregnancy, labor induction, PTB, SMM
- and lower risk for PPH, instrumental birth, and 3rd/4th degree lacerations, higher risk of VBACs
- Junior Officers have higher risk for PPH, instrumental birth, and 3rd/4th degree lacerations, PTB, SMM
- and higher odds of VBACs
- Births in private sector care system and higher risk for IOL, high risk pregnancy and PPH
- Births in MTFs had lower risk for cesarean birth, episiotomies, & 3rd/4th degree tears

Discussion

In spite of universal insurance and access, Black ADSW experience the same national crisis of increased risk for adverse maternal outcomes

Lower ranks experience higher risk for perinatal outcomes

- Similar to civilian studies linking lower SES to perinatal outcomes

Private Sector showed more risk for adverse outcomes but mitigations for non-life-threatening outcomes

Source: https://www.naturalhairrules.com/military-members-support-list-armys-unauthorized-hairstyles/

Recommendations for Future Studies

Further research is necessary to determine:

- Whether racial-minority patients receive guideline-concordant care at the same rates as White patients
- Investigate the social determinants of health that contribute to disparities in perinatal outcomes for mothers and infants
- Guidelines & type of care in Direct Care in comparison to Private Sector Care.

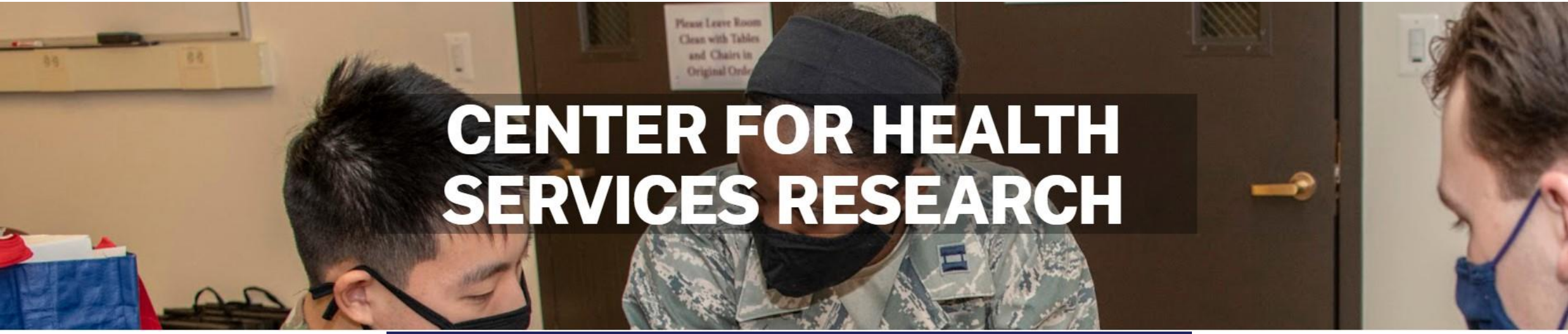
Conclusions

Racial disparities in perinatal outcomes may persist even in a healthy, working-age, educated, & universally insured population.

We have a good system – not a perfect system

Military leaders' responsibility to help regulate issue

Source: https://newsroom.tricare.mil/News/Market-News/Article/3130055/after-dobbs-decision-department-of-defense-provides-qa-resource



Questions

Lynette Hamlin

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Birthing Cultural Humility: A Revolution in Healthcare Justice

Hava Haischer-Rollo, MD

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Defining the problem

Rising maternal mortality and morbidity

Maternal child health disparities

- 3.69 neonatal deaths per 1000 live births (US overall)
- 6.85/1000 neonatal deaths per 1000 lives births (Black, non-Hispanic women)

Proposed reasons:

- Socioeconomic status
- Access to healthcare
- Institutional and interpersonal racism

Maternal child health disparities

- 3.69/1000 (US overall)
- 1.84/1000 (MHS)
- 3.41/1000 (Black, non-Hispanic)

Proposed reasons:

- ~~Socioeconomic status~~
- ~~Access to healthcare~~
- Institutional and interpersonal racism
- Oppressive medical care
  - Lack of autonomy
  - Racism, sexism, homophobia, nativism and religion bias

What about the Military Health System?

Oppressive Medical Care = Lack of Cultural Humility

What is Cultural Humility?

"A lifelong process of self-reflection and self-critique"

Deliberate effort to acknowledge

- Multiple social status
- Intersectional identities
- Things that shape beliefs

Why Cultural Humility?

Flexibility
Humility
Interest in Patient Experience
Sensitivity to Power Imbalance

Study aims

1. Describe the lived birthing experiences of military beneficiaries

2. Better understand from the patient perspective the roles that both paternalism/oppression and cultural humility play in health care delivery in relation to patients' intersectional identities

3. Identify where gaps in practice exist and uncover practical step to take to fill these gaps

Methods

- Qualitative semi-structured interviews
- Tricare Beneficiaries who delivered in the past 5 years
- Total of 35 interviews
  - Variety of ethnicities, ranks and services
  - Higher number of officer and Navy
- Coding of the data
  - inductive emergent open coding
  - cultural humility as a lens

Results

Lack of cultural humility centered around poor communication, lack of autonomy, and judgment from the healthcare team

Lack of Communication:

“During the C-section when they started to cut, I could actually feel them cutting and I told him [the doctor] I feel that and the doctor said No, you don't feel it. [I responded] Yes, I do feel that!! ” (Black, Navy E-5)

I kept saying it's not pressure, it's pain, it's not pressure, it's pain... On two separate occasions she [the provider] discounted when I said I was in pain.

And I don't know another reason why she would not listen to me. I don't like being the one that's like is it ‘cause I'm Black …especially when there are no other factors contributing. (Black, Navy E7)

Lack of autonomy/paternalism

“I felt very pressured and felt talked down to that I'd asked [whether an intervention was necessary] because I think it's very reasonable to ask why they're making those recommendations” (White, Air Force O5).

I had no idea what I was doing. and I didn't know that I could say no …I could have said no, and I didn't know that I had the options. So it was overall just a very uncomfortable experience. (Mexican/Chicana, E5 Airforce)

Judgement/Bias of the healthcare team

- She [the provider] said “you know you should really slow down,” and “are you sure you can handle this?” (Mexican/Chicana, Air Force E5).

- Black PhD student was dismissed by the front desk and nursing staff until the healthcare team learned of her background, “after my midwife got there, I guess she gave them a history of who I was and being a doctoral student and having background in healthcare, the staff did a 180 and I thought that was interesting” (Black/Filipino Navy O4) .

The power of cultural humility

“The most positive part of my experience, was the doctors just listening to me and really like not pushing me to do what I didn't want to do. And, you know, obviously telling me the risks, the risks, but also the benefits. And yeah, they just listened. To my wishes.” (White spouse)

“I had felt like everyone was really good at communicating and kind of talking about things with me…I felt like that was a really helpful thing for me and kind of like processing what had happened.” (White Navy Lt)

Cultural Humility Element	Practical Implication(s)
Flexibility	Open and flexible with plans of care. Autonomy, individualization, and discussion of options. Options with risk-benefit assessment and shared decision making.
Humility	Be aware of bias. Bias and humility training focused on recognizing and practicing humility. Take time to discuss care and debrief
Interest in patient experiences	Develop open communication and active listening skills. Develop plans that incorporate past experiences of patients as individuals.
Sensitivity to power imbalance	Recognize the power imbalance. Communicate choice aimed at balancing safety and autonomy of patients. Reinforce patient's right to refuse care or recommendations.

Conclusions

Poor outcomes may be associated with lack of cultural humility

- Lack of trust in the healthcare systems
- Lack listening to patients
- Bias (implicit and explicit)

Birthing persons across the MHS experience this

- Worse with intersectionality and minoritized backgrounds

We need a unified approach to addressing cultural humility

Research Team:
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Dr. Abigail Konopasky
Dr. Hava Haischer-Rollo

Thank you!