

Framing the Issue: Racial Disparities in the Military Health System

Presentation to the Defense Health Board

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Uniformed Services of the Health Sciences



Speaking the Same Language

Grandpa



Father



Husband



Me



Sons



20 + Years Operating with the US Military

8 Years on the Front Lines in the War on Poverty & Disease

Saudi Arabia

Germany

Hawaii

Pakistan

Nepal

Bangladesh

Indonesia

Afghanistan

Repatriated:

Summer 2012

Became Spec Asst

US Marine Corps



A class of the Certificate of Advanced Research Method (CARM) programme held at the USMC Center for Health and Humanitarian Assistance (CHHA) in 2011. Dr Tracey Lynn Perez Koehlmoos. The first batch of this programme took place from March to August 2011 with participation with six research fellows. The second batch has completed the programme successfully from March-August 2011.

Disclaimer

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Agenda


- Introduction
- Overview of the CHSR
- Racial Disparities Framework Synthesis
- More on Racial Disparities in the MHS
- Future Directions

CENTER FOR HEALTH SERVICES RESEARCH

Center for Health Services Research

Mission Statement: The Center for Health Services Research (CHSR) supports the readiness of America's Warfighter and improved outcomes for the military community by building capacity throughout the Military Health System (MHS) to conduct health services research that support MHS goals, DoD's mission, and the national security strategy.

Vision Statement: By the end of CY 2024, the CHSR will be nationally recognized as the leader in Military Health System (MHS) Health Services Research. We will produce actionable, outcomes-based policy recommendations and direct support that will improve health outcomes throughout the MHS.

<p>Management of HSR in the NCR Portfolio</p> <ul style="list-style-type: none"> • Readiness & financial impacts of consolidating complex care • Low value care in the MHS/EPIC 3.0 • Evaluation of DoD/VA joint pain education program • Primary care by remotely supervised medics & corpsmen • MiHReC-19 	<p>Direct Research Support to DoD, MHS & DHA</p> <ul style="list-style-type: none"> • Intrepid Spirit Center: Future • Global Burden of Disease (DoD) • Applying Kotter’s 8 Principles to the MHS transformation (OSD) • Effect of Readiness FTEs on Clinical FTEs • Quick answers to priority questions 	<p>HSR Interest Group 100+ members</p>
<p>Education & Training</p> <ul style="list-style-type: none"> • Capturing Costs in Direct Care • DaVINCI • Intro to PDE • MDR • Transforming BH Pathway 	<p>Collaborations</p> <ul style="list-style-type: none"> • OSD (HA, CAPE, Strategy) • DHA J6 & J9 • DoD/VA WH WG • NIH NICDD & NHLBI • White House Office of S&T Policy • Boston University • UMN • BWH CSPH 	<p>Enabling Expertise</p> <ul style="list-style-type: none"> • White House • CCAC • GAO • DHA • OSD (HA) • Navy OTSG • TRICARE Health Plan • MHS COVID-19 AAR
<p>Funding Intramural Partnerships</p> <ul style="list-style-type: none"> • 1st Round Awards: 6 • 2nd Round Awards: 7 		
<p>Development of USU Faculty, Staff & Students</p> <p>48 Alumni 13 Current Students & Residents</p>		
		

RACIAL DISPARITIES IN THE MHS: A FRAMEWORK SYNTHESIS

Koehlmoos TP, Korona-Bailey J, Janvrin ML, Madsen C. Racial Disparities in the Military Health System: A Framework Synthesis [published online ahead of print, 2021 Dec 15]. *Military Medicine*. 2021;usab506. doi:10.1093/milmed/usab506

Racial Disparities in the US

- In the US, access to care, as well as discrimination related to socioeconomic status, education, insurance, social support, gender, race, & ethnicity lead to disparities within healthcare
- Minority patients consistently have poorer outcomes than White patients despite adjusting for condition severity, comorbidities, & socioeconomic variables
- Universal insurance is a commonly-proposed solution to racial disparities in healthcare; however, the area remains understudied

Comparative Effectiveness & Provider-Induced Demand Collaboration (EPIC)

- From 2015-2022, research initiative between USUHS & Brigham & Women's Hospital/Center for Surgery & Public Health, reorganized to address gaps in Health Services Research in the MHS
- Build capacity to investigate priority topics
- Military Health System Data Repository
- Comparison of direct care & private sector care

Research Cores

- Health & Readiness
- Pediatrics
- Policy
- Surgery
- Trauma
- Women's Health

EPIC Goals

Investigation of priority topics

Training of new researchers

Development of partnerships for future work

Dissemination of findings

CHSR



CORES	THEMES				
	<i>Epidemiology</i>	<i>Comparative Effectiveness/ Surgical Outcomes</i>	<i>Quality/ Practice Improvements and Low Value Care</i>	<i>Healthcare Disparities</i>	<i>Provider Induced Demand/Health Economics/ Geographic Variations</i>
<i>Trauma/ Orthopedic Surgery</i>	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ●	★ ★ ★ ★ ★	★ ★	★ ★ ★ ★ ★ ★ ★	★ ★ ★
<i>Surgery</i>	★ ★ ★ ★ ★ ●	★ ★ ★ ★ ★ ★ ★ ●	★ ★ ★ ★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★
<i>Women's Health</i>	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ● ● ●	★ ★	★ ★ ●	★ ★ ★	
<i>Policy</i>	★ ★ ★ ★ ★ ★ ● ● ● ●	★ ●	★ ★ ★ ★ ★ ★ ★ ★ ● ● ● ● ● ●	★	★ ★ ★ ●
<i>Health and Readiness</i>	★ ★ ★ ★ ★ ★ ★ ★ ● ●			★	★
<i>Pediatrics</i>	★ ★ ★ ★ ★ ★ ★ ★ ●	★	★		

- 104 Published Manuscripts
 - 28 on Racial Disparities
- 122 Conference Presentations
- 12 Policy Impacts

- ★ Published/Accepted
- Submitted/Modified/Being written
- Abstract submitted/written
- Data cut/analysis

Updated March 17, 2022

MHS Data Repository

- MDR = MHS Data Repository; Nationally representative
- 9.6 million beneficiaries
- Encounter & claims data for TRICARE Prime/Prime Plus Beneficiaries (FY 2006-2020)
 - Active Duty & Retirees (electing benefits), & their Dependents
- Two Care Settings: Direct & Private-Sector Care
 - Direct = Military Treatment Facilities
 - Private-sector = Civilian fee-for-service Treatment Facilities
- Pharmaceutical Data, Laboratory Data, Provider Data
- Beneficiary Enrollment Demographic Data/DEERS

Racial Disparities in the MHS

- Framework synthesis using EPIC publications
 - Inclusion Criteria: Manuscripts that directly assess racial disparities within the MHS as primary or secondary outcome
 - Exclusion Criteria: Manuscripts that considered race solely for demographic information

Data Collection & Synthesis

Reviewers extracted data relating to the following points:

- Years of data analyzed
- 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

- Start: 77 manuscripts
- End: 32 manuscripts
- Topics covered:
 - Surgery=9
 - Trauma=7
 - Opioid Usage= 5
 - Women's Health=5
 - Cancer Screening=4
 - Other (Diabetes Readmission & Soft Tissue Sarcoma Treatment)=4

Surgery & Trauma

	Direct Care	Private-Sector Care	Both
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			✓

Women's Health

	Direct Care	Private-Sector Care	Both
Potentially avoidable maternal complications	✓	X	
Minimally invasive hysterectomy			X
Laparoscopic treatment of ectopic pregnancy	✓	X	
Mental health diagnosis during pregnancy			X

Cancer Screening

	Direct Care	Private-Sector Care	Both
Colorectal cancer			✓
Prostate cancer			✓
Breast cancer			✓
Cervical cancer	✓		

Pediatrics

	Direct Care	Private-Sector Care	Both
Pediatric osteomyelitis treatment	✓	X	
Pediatric fractures			X
Pediatric trauma care			X
Adolescent mental health diagnoses	✓	X	

Disparities in Opioid Practices

- Opioid discontinuation: Black patients more likely to discontinue opioids compared to White patients after major trauma
- Opioid prescribing: Black patients less likely to receive an opioid prescription after discharge compared to White patients

Additional Disparities

- Cost of care for combat injuries: Compared to White patients, costs were lower for Black, Asian, Native American, & Other patients
- Polytrauma Clinical Triad: Black & Asian/Pacific Islander patients less likely to be diagnosed with PCT compared to White patients
- Low Back Pain: Compared to White patients Black & Asian American/Pacific Islander patients higher odds of low back pain

Mixed Outcomes

- Mental health & Combat Injuries:
 - Asian/Pacific Islander patients & American Indian/Alaskan Native patients more likely to get a depressive order diagnosis compared to White patients
 - Black patients less likely to receive a depressive disorder diagnosis than White patients.
- Diabetes Readmission:
 - Native American/Alaska Native patients increased odds of readmission at 60 or 90 days in Direct Care, & 90 days in Private Sector Care compared to White patients.
 - No significant difference in readmission rates between Black & White patients

Discussion

- Notable amelioration of disparities for:
 - Post-surgical morbidity & mortality
 - Readmission rates
 - Length of hospital stay
 - Outpatient-care utilization
 - Access to cancer screening
- Mitigation more commonly detected within the Direct Care system

Conclusion

- Universal Coverage provided through the MHS appears to mitigate racial disparities across a variety of procedures & screenings
- Some disparities persist in private-sector care
- The presence of disparities in direct care for minimally-invasive hysterectomy suggests that factors beyond insurance play a role in guaranteeing equal access to therapies
- More research is needed—broader range of interventions, closer look at private-sector care variation, look at quality/low value care by race

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		

MORE ON DISPARITIES

Model of Disparities

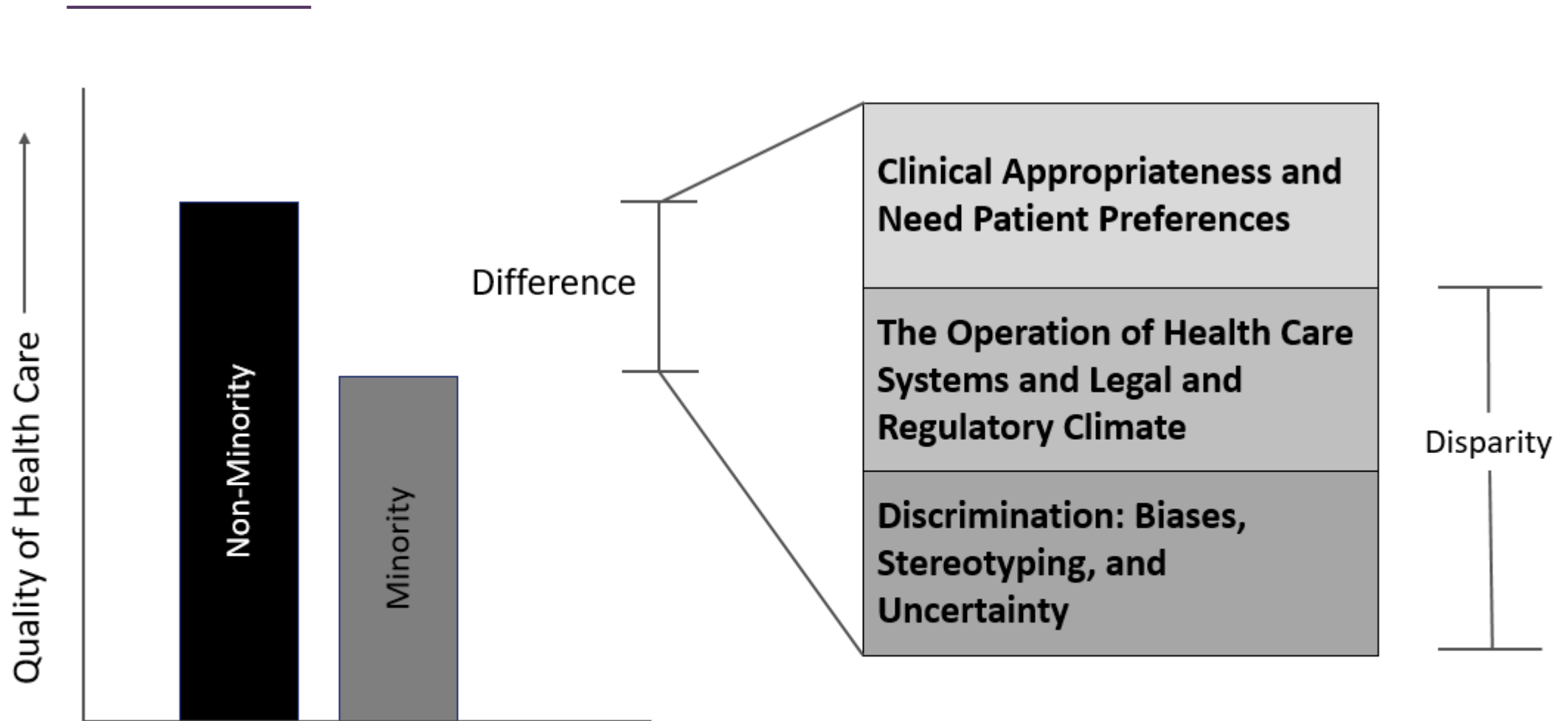
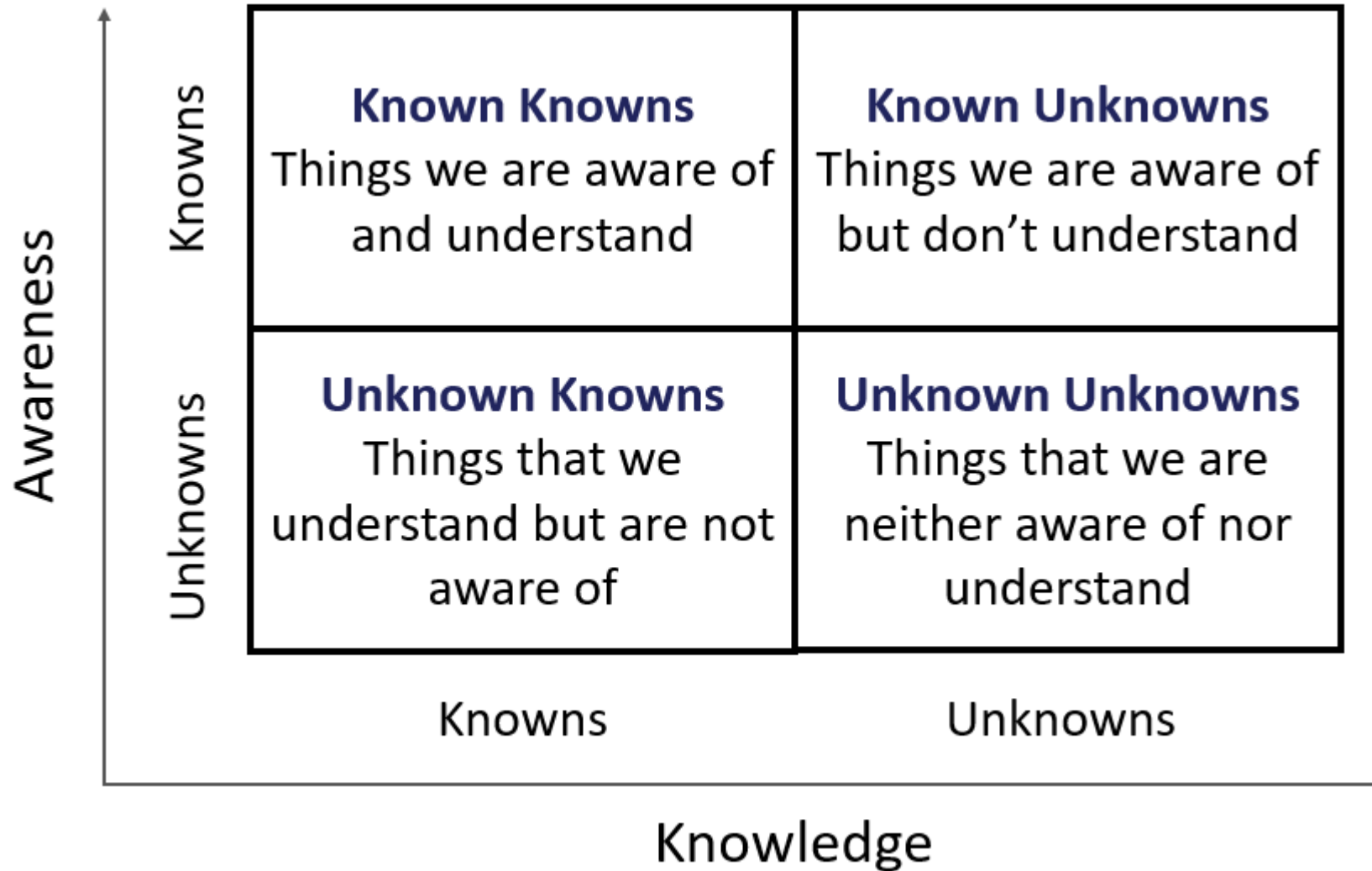


Figure 1. The Institute of Medicine's Definition of Racial/Ethnic Health Care Disparities Source: Institute of Medicine (2002).

The Johari Square Approach



Example: Murtha Cancer Center

Cancer Care: Some disparities mitigated, others persist

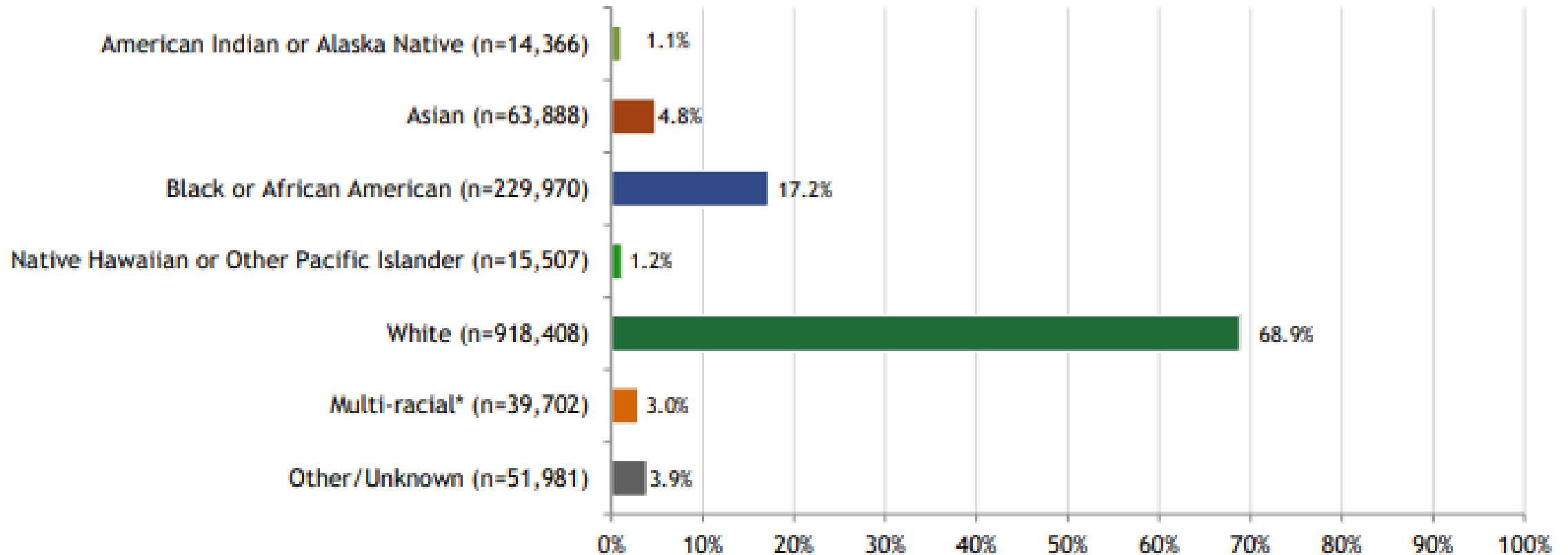
Survival rate after prostate cancer	✓
Treatment delays for colon cancer	✓
Survival for invasive bladder cancer	✓
Time to breast cancer treatment	✗
Differences in guideline adherent care	✗
Survival for endometrial cancer	✗

Example: Consortium for Health & Military Performance (CHAMP)

- CHAMP has led several research efforts associated with sickle cell trait
 - All services now screen for sickle cell trait
 - Subsequent to screening, all warfighters are educated on sickle cell trait using a CHAMP educational product
 - CHAMP has active partnerships with NHLBI, ECAST, Warfighter Heat and Exertion Related Illness Collaborative, USU MICOR, USU Primer, Office of the Armed Forces Medical Examiner, & the NCAA
 - Led research on rhabdomyolysis & collapse & policies preventing collapse

Race of Active Duty Servicemembers

Race of Active Duty Members (N=1,333,822)



* The Army does not report "Multi-racial."

Note: Displayed percentages may not total 100% due to rounding.

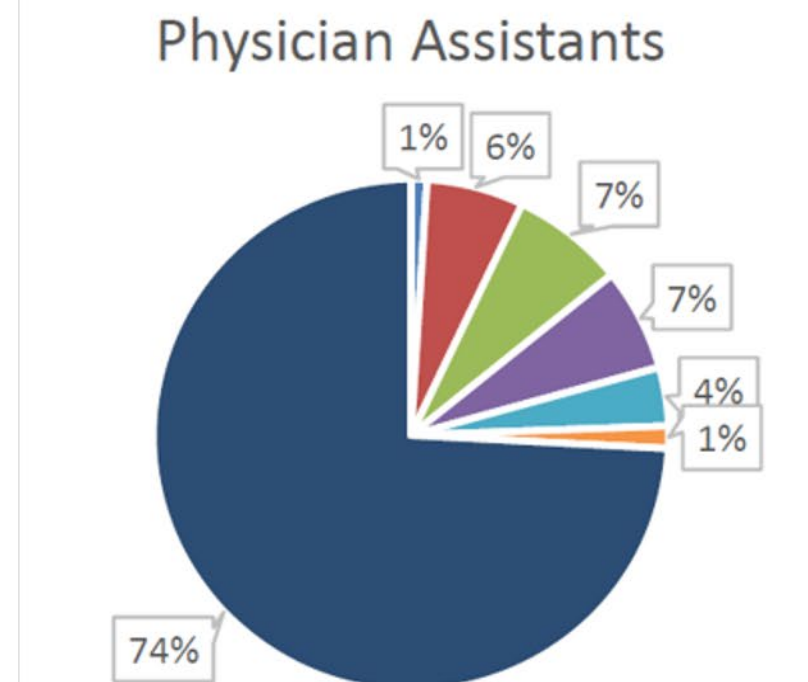
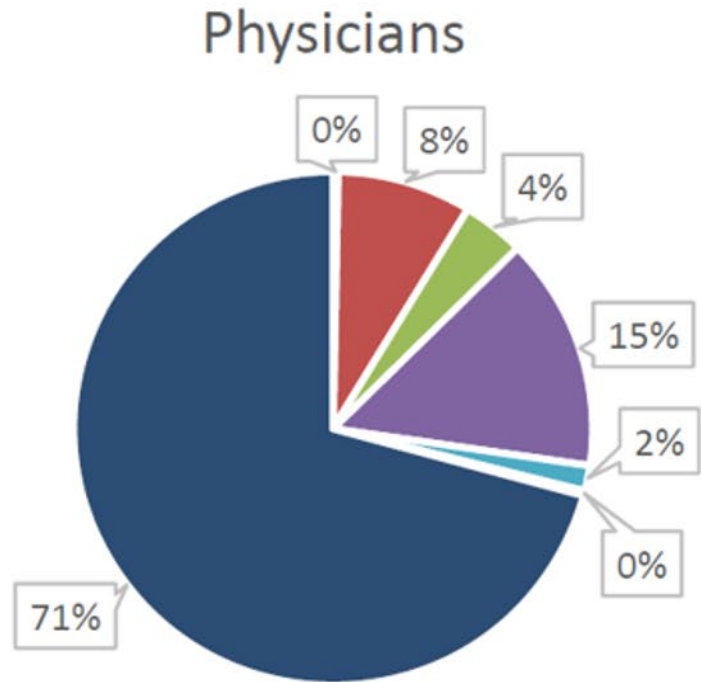
Source: DMDC Active Duty Military Personnel Master File (September 2020)

Diversity, Equity, and Inclusion (DEI) Efforts in the MHS

- Clinical Community Working Groups: Women & Infant Health Clinical Community (WICC) & Behavioral Health CC
- Services Medical: Offices of Diversity, Equity, & Inclusion:
 - Currently no collaboration between branches
- Air Force Medical Services ODI
 - Recruitment Team
 - Retention Team



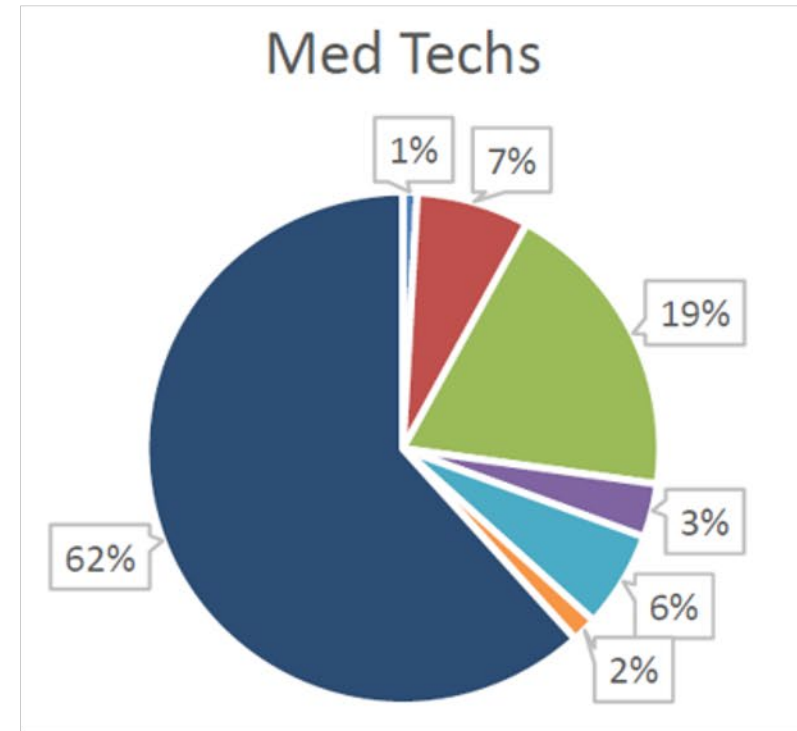
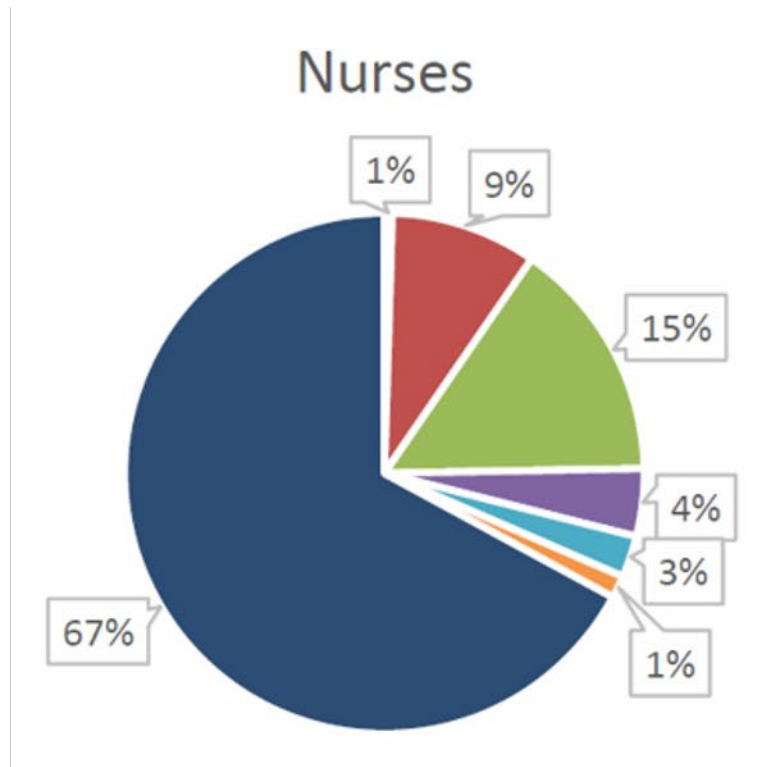
Air Force Medical Workforce by Race



- American Indian/Alaskan Native
- Black or African American
- Identified More than one Race
- White

- Asian
- Declined to respond
- Native Hawaiian/Other Pacific Islander

Air Force Nurses & Med Techs by Race



- American Indian/Alaskan Native
- Black or African American
- Identified More than one Race
- White

- Asian
- Declined to respond
- Native Hawaiian/Other Pacific Islander

USU: Diversity, Equity, and Inclusion

- Enlisted to Medical Degree Preparation Program (EMDP2)
- Early outreach efforts by current servicemembers who attended a minority-serving institution to create a pipeline for diverse providers
- Adding Equity to the Curriculum
- Summer Programs for traditional medical programs for underrepresented students

FUTURE DIRECTIONS

Research Agenda

Despite the success of the MHS in mitigating many disparities in health care, there is more work to be done

IMMEDIATE TASKS

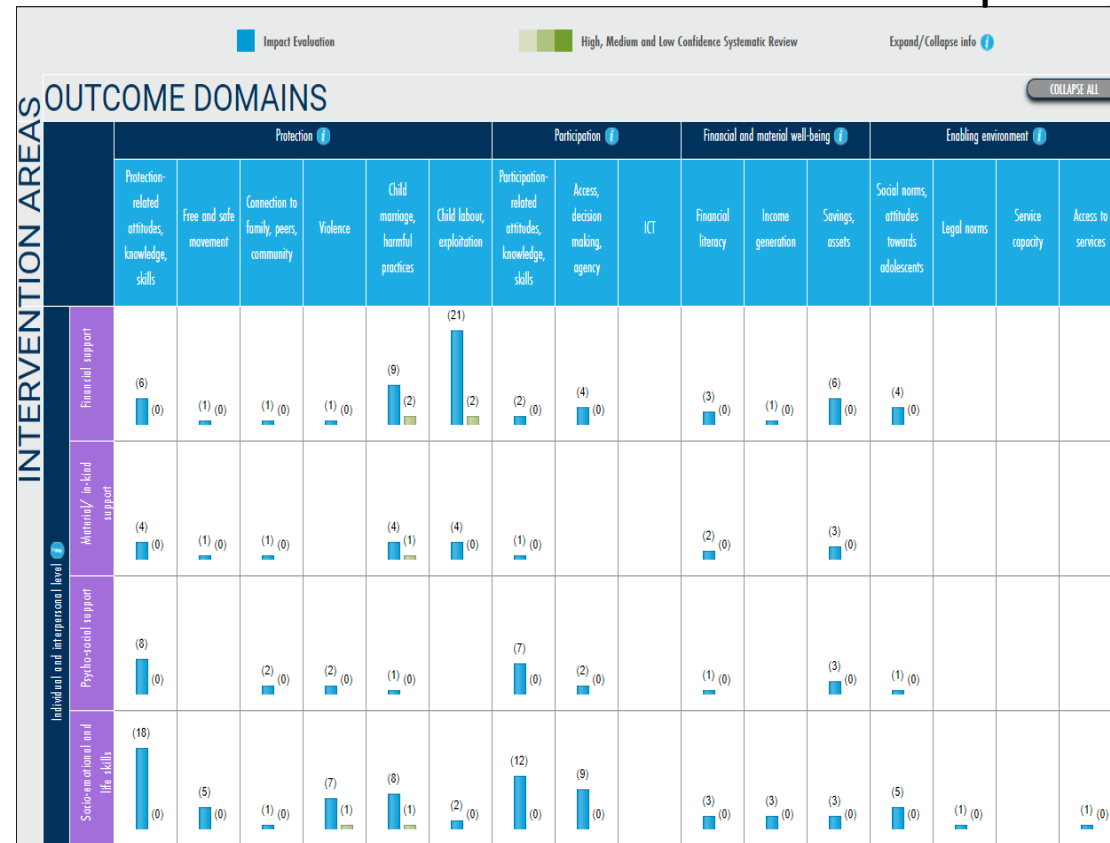
- Conduct comprehensive systematic review of racial disparities literature
- Creation of an evidence gap map to identify current unknown knowns
- Inventory & synthesis of DEI efforts for Health (care, outcomes, workforce)
- Women's Health: What else can we know besides looking at the data?

Comprehensive Systematic Review

- Conduct a more robust systematic review of the literature of disparities in the MHS
- Expansion of inclusion criteria
- Develop a more comprehensive picture of racial disparities in the MHS & compare results with current findings

Creation of an Evidence Gap Map

- Identify key "gaps" where little or no evidence from impact evaluations and systematic reviews is available and where future racial disparities research should be focused



Example: Evidence Gap Map on Adolescent Well-Being in Low- and Middle-Income Countries: Protection, Participation, and Financial and Material Well-Being

Inventory & Synthesis of Current Efforts

- Clinical Communities
- Branches Medical Offices, DHA, OSD(HA)
- Services
 - Retention
 - Recruitment

Additional Considerations

- Coming Soon:
 - Disparities in Maternal Outcomes for Active Duty Service Women
 - Disparities in Contraception Utilization for Active Duty Service Women
 - Telehealth During COVID19: Social Determinants of Health
- Future Needs:
 - Impact of Provider Race on Outcomes in the MHS
 - Service Women's Health: Looking beyond the MDR & universal access
 - Value Based Care through a Social Determinants of Health Lens
- What else?



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Questions

For additional comments or feedback, please contact us:

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