

# Racial and Ethnic Differences in Veteran Health Care Experiences

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# Overview

- Background: Why we should study racial/ethnic differences in VA patient experiences
- Quick tutorial on within vs. between facility differences
- What the data tell us

# Poll Question, Part 1

- Do you think patients of different races and ethnicities have different types of experiences in the VA Healthcare System?
  - Yes
  - No
  - Unsure

# Poll Question, Part 2

- Do you think patients of different races and ethnicities have different types of experiences within ***your VA facility?***
  - Yes
  - No
  - Unsure

# BACKGROUND

Why we should study racial/ethnic differences in VA patient experiences

# Background

- Patient-reported health care experiences are an important dimension of health care quality and are associated with health behaviors and outcomes
- VA regularly collects data on patient experiences to guide quality improvement efforts
- Comparing experiences of patients from different racial/ethnic groups can inform efforts to address potential disparities

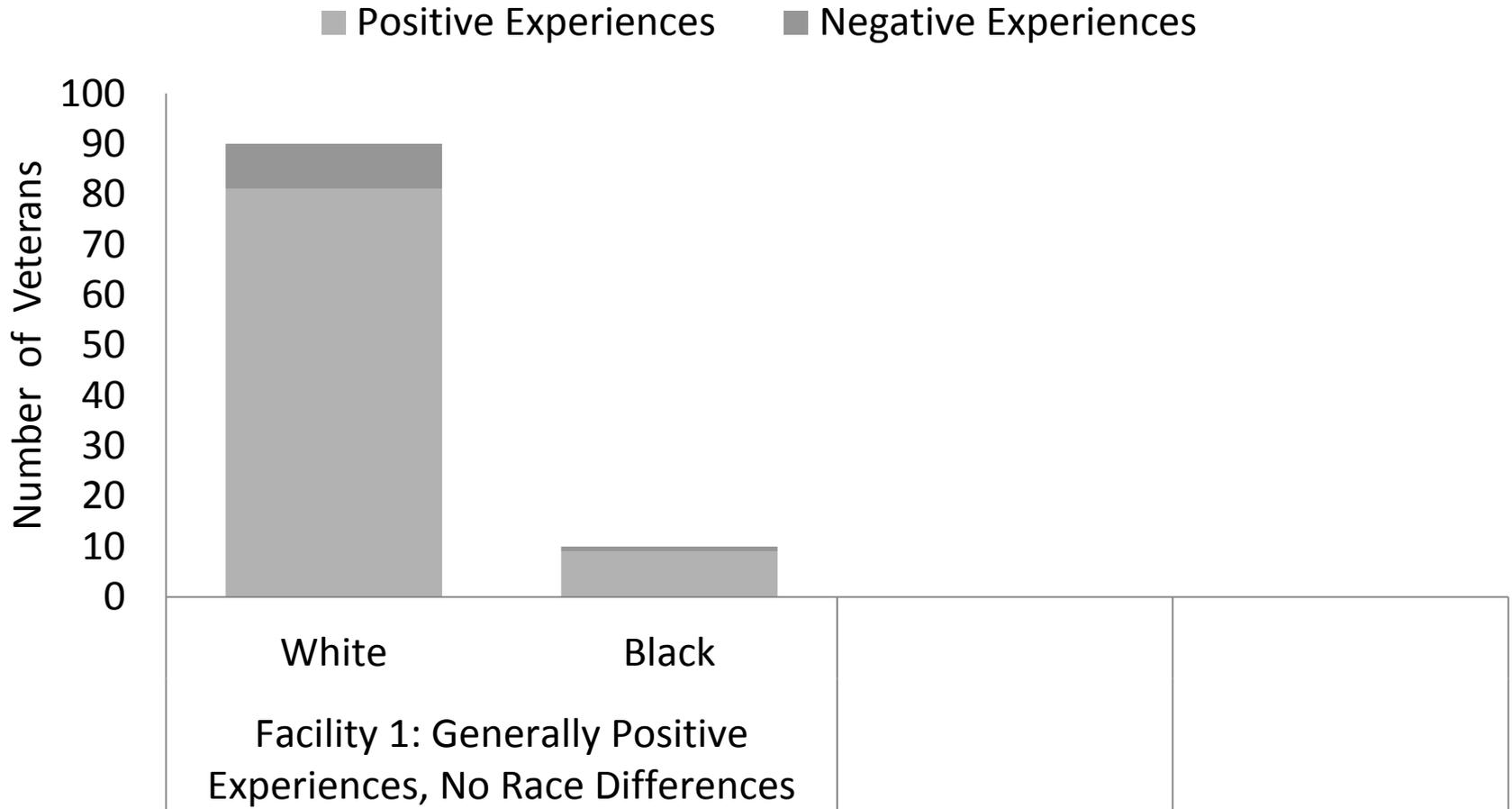
# Background (cont'd)

- Limitations of prior studies of racial/ethnic differences in VA patient experiences:
  - Make black-white or minority-white comparisons without examining outcomes for specific minority groups
  - Compare mean ratings or proportion of highly positive ratings, which can mask differences
  - Do not distinguish whether racial/ethnic differences occur within or between medical facilities

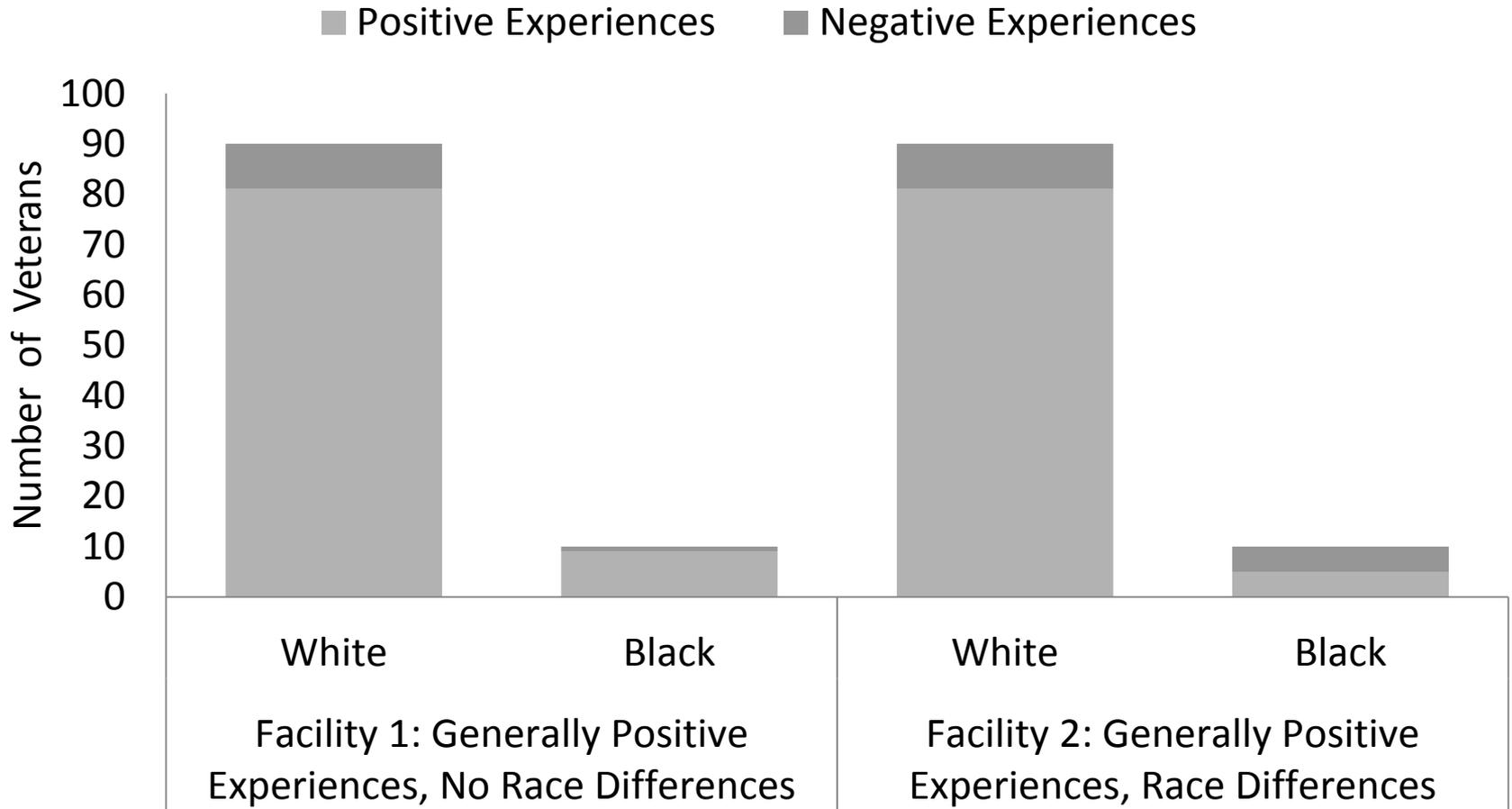
# QUICK TUTORIAL....

Everything (and more than) you ever wanted to know about within and between facility differences

# What are “within facility” differences?

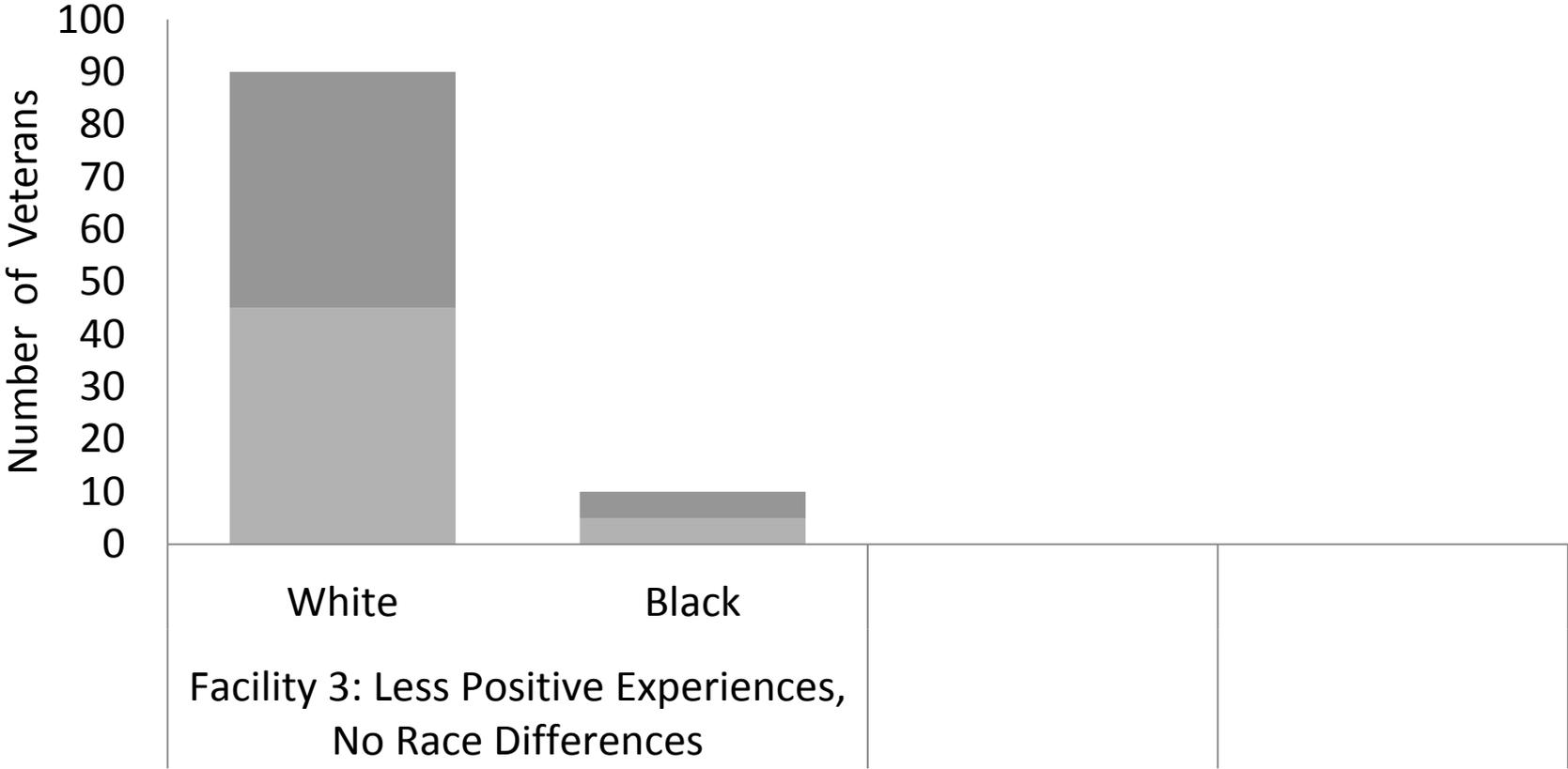


# What are “within facility” differences?



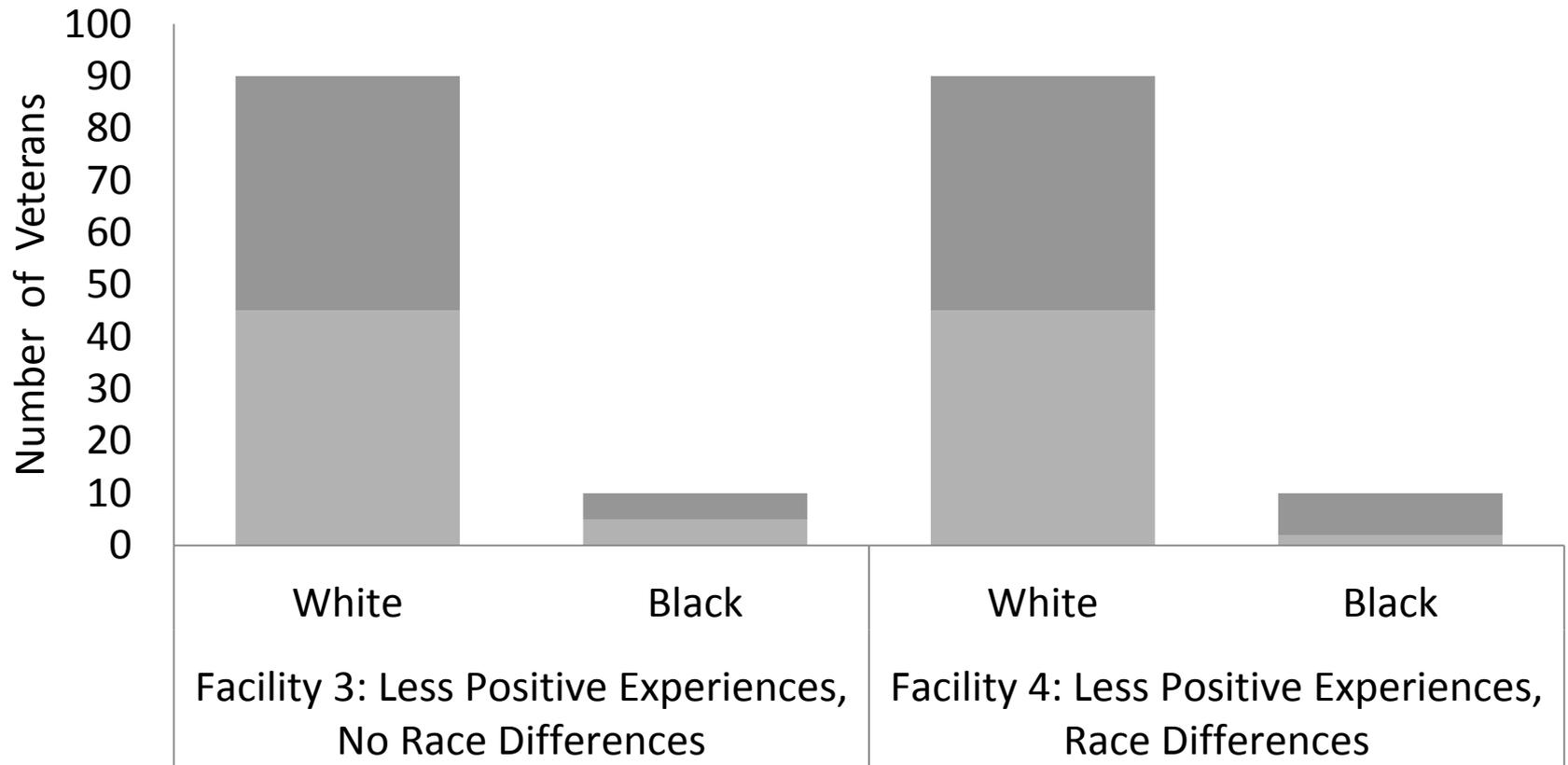
# More “within facility” differences...

■ Positive Experiences    ■ Negative Experiences

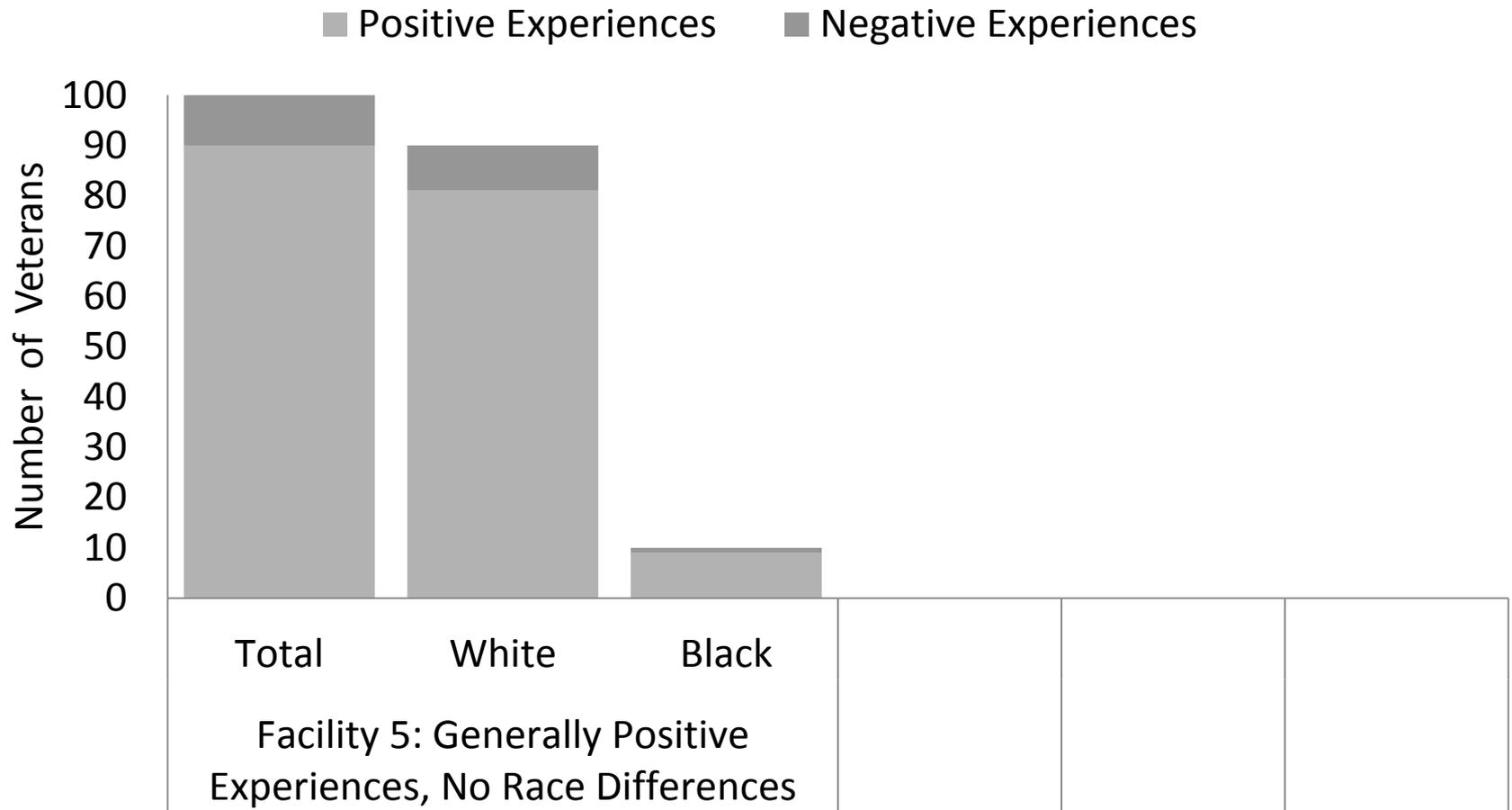


# More “within facility” differences...

■ Positive Experiences    ■ Negative Experiences



# What are “between facility” differences?



# What are “between facility” differences?

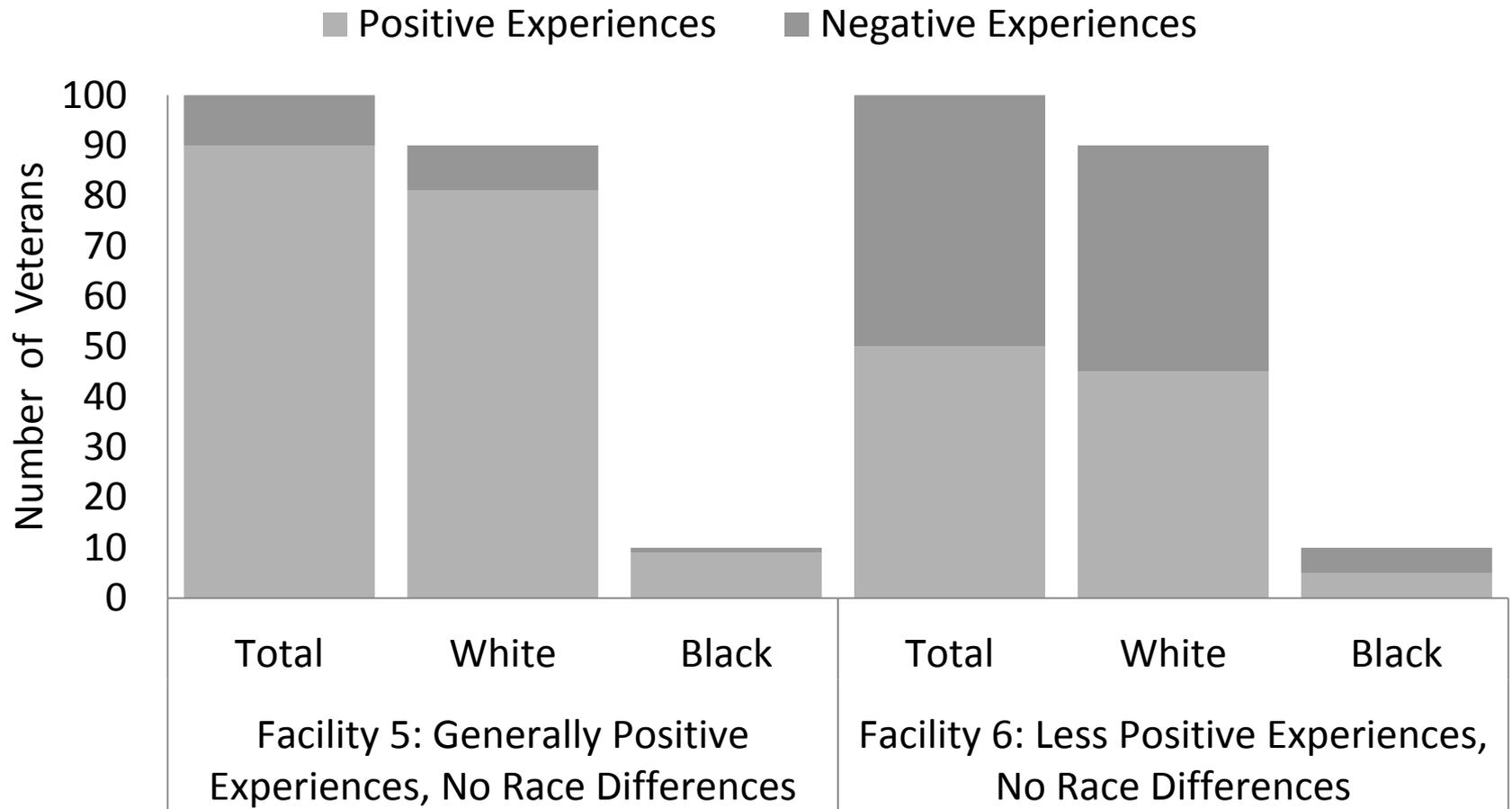


Figure 4.  
**Black or African American Population as a Percent of County Population: 2010**

(For information on confidentiality protection, nonsampling error, and definitions, see [www.census.gov/prod/cen2010/doc/pl94-171.pdf](http://www.census.gov/prod/cen2010/doc/pl94-171.pdf))

**Black or African American Alone**

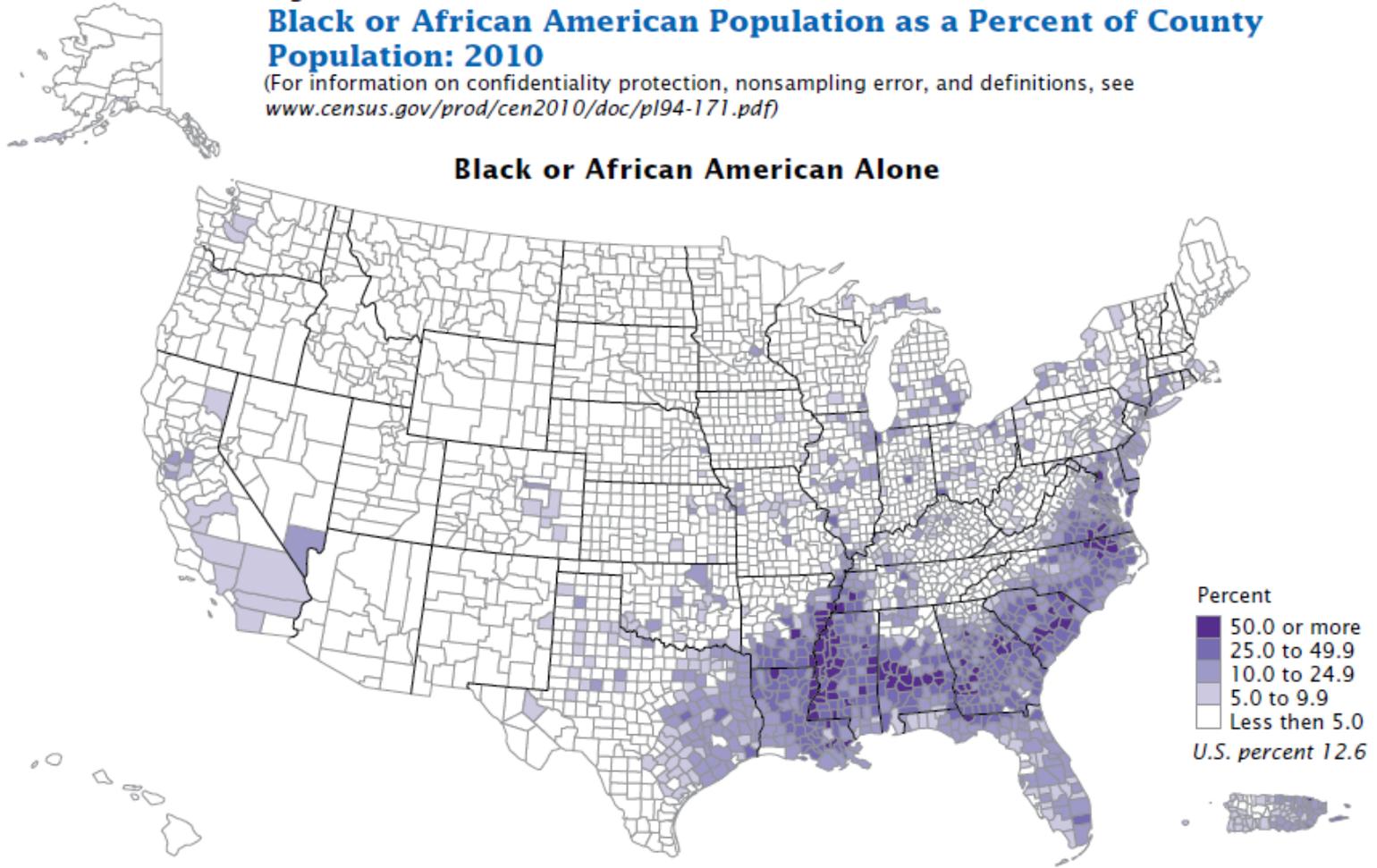
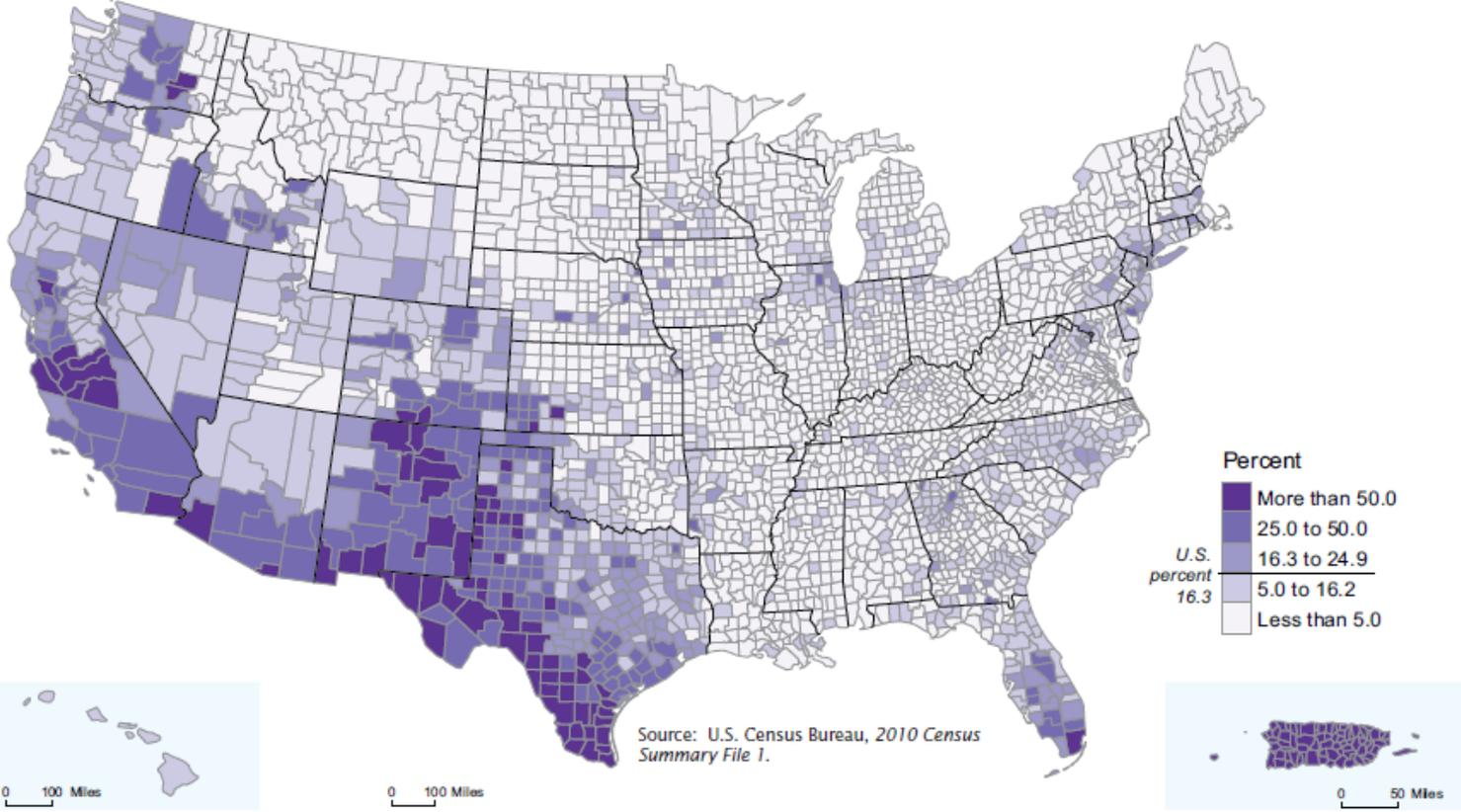


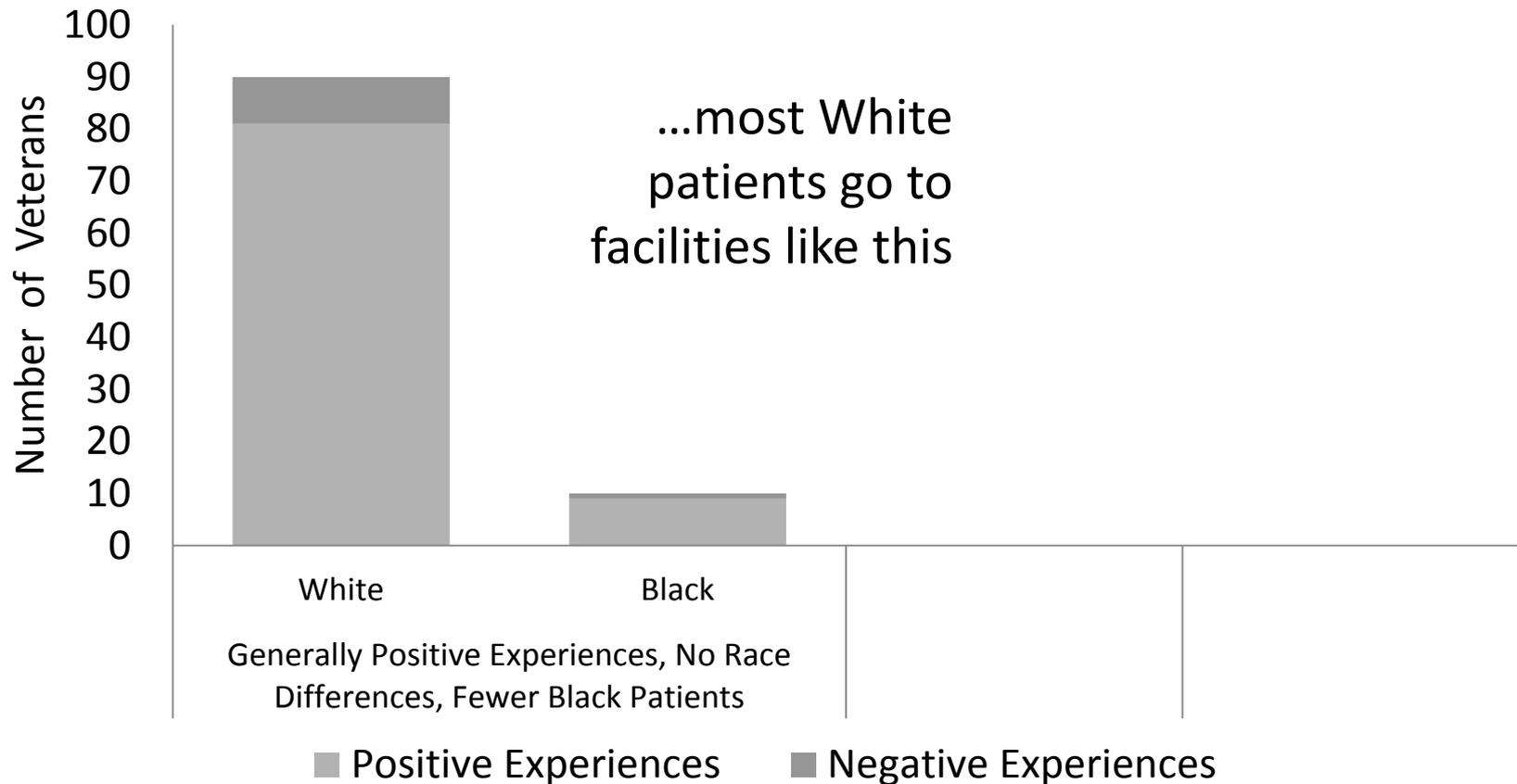


Figure 5.  
**Hispanic or Latino Population as a Percent of Total Population by County: 2010**

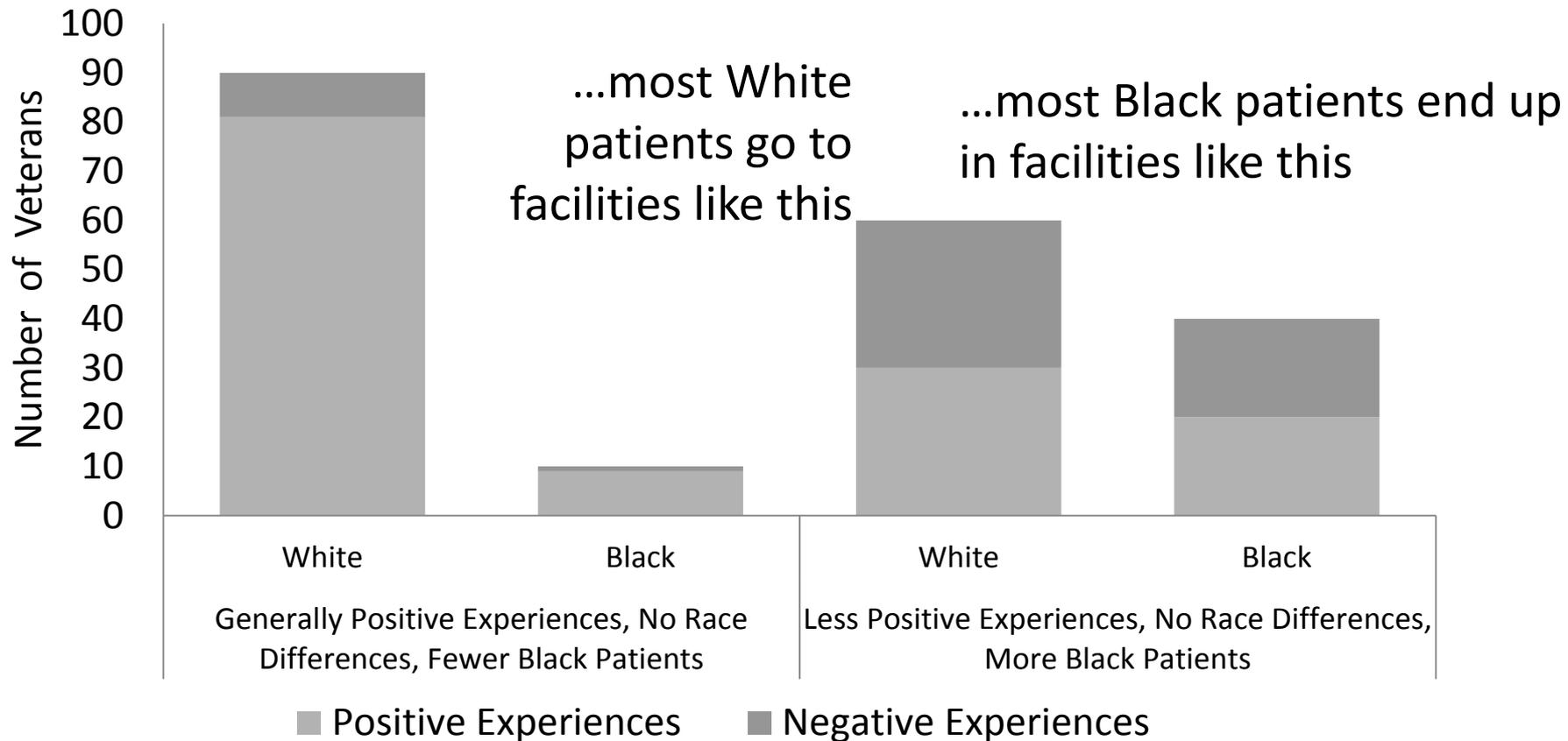
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# Between facility race differences can happen if...



# Between facility race differences can happen if...



# WHAT THE DATA TELL US

# Study Aims

- Compare rates of negative and positive VA outpatient health care experiences across 4 racial/ethnic groups (non-Hispanic white, non-Hispanic black, Hispanic, and other)
- Determine whether differences occur within and/or between VA facilities

# Patient Experience Data

- Outpatient Survey of Healthcare Experiences of Patients (SHEP) from Fiscal Year (FY) 2010
  - Mail-based survey conducted by the VA Office of Analytics and Business Intelligence
  - Based on Consumer Assessment of Healthcare Providers and Systems (CAHPS) health plan survey
  - Randomly samples active outpatients from all major VA Medical Centers (n = 140) and Community-Based Outpatient Clinics (CBOCs)/subsidiary facilities (n = 781) each month

# Domains of Health Care Experiences

Domain	Response format (numerical scale)
Getting needed care	never, sometimes, usually, always (1-4)
Getting care quickly	never, sometimes, usually, always (1-4)
Pharmacy services*	poor, fair, good, very good, excellent (1-5)
How well doctors and nurses communicate	never, sometimes, usually, always (1-4)
Shared decision making*	definitely yes, somewhat yes, somewhat no, definitely no (1-4)
Overall health care	worst possible - best possible (0-10)
Personal doctor or nurse	worst possible - best possible (0-10)
Specialist	worst possible - best possible (0-10)

\*VA-specific domain. All other domains are from CAHPS

# Categorization of Domains

Domain	Negative	Moderate	Positive
Getting needed care	1-2	2.5-3	3.5-4
Getting care quickly	1-2	2.5-3	3.5-4
Pharmacy services	1-2	3	4-5
How well doctors and nurses communicate	1-2.3	2.5-3	3.5-4
Shared decision making	1-2.5	3	3.5-4
Overall health care	0-6	7-8	9-10
Personal doctor or nurse	0-6	7-8	9-10
Specialist	0-6	7-8	9-10

# Independent Variables

- Self-reported respondent race/ethnicity (SHEP)
  - Categorized as non-Hispanic white, non-Hispanic black, Hispanic, and non-Hispanic other
  - Other included: Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, other, and multi-race
- Racial/ethnic composition of patient populations at respondents' health care facilities
  - Proportion of patients in the 4 racial/ethnic groups who had an outpatient visit at each facility in FY 2010
  - Calculated from VA Medical SAS outpatient files

# Patient Covariates

- Sex
- Age
- Rural versus urban residence
- VA priority group
- Self-reported health status (SHEP)
- Self-reported educational level (SHEP)
- Facility type: Major or non-major (CBOC/subsidiary) medical center

# Analyses

- Compared unadjusted rates of negative, moderate, and positive experiences for each domain across racial/ethnic groups
- Used mixed effects multinomial regression models to examine within and between-facility racial/ethnic differences
  - Included random effect for each facility
  - Adjusted for patient characteristics
- Calculated risk differences between each minority group and whites, estimating confidence intervals using bootstrap approach

# Analytic Sample

**Sampled:** 410,132 active VA outpatients

```
graph TD; A[Sampled: 410,132 active VA outpatients] --> B[Responded: 218,110 (53.2%)]; B --> C["Excluded: 1326 from VA outside the 50 states  
5325 with missing race/ethnicity"]; C --> D["Analytic Sample: 211,459 (51.6%)"];
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**Responded:** 218,110 (53.2%)

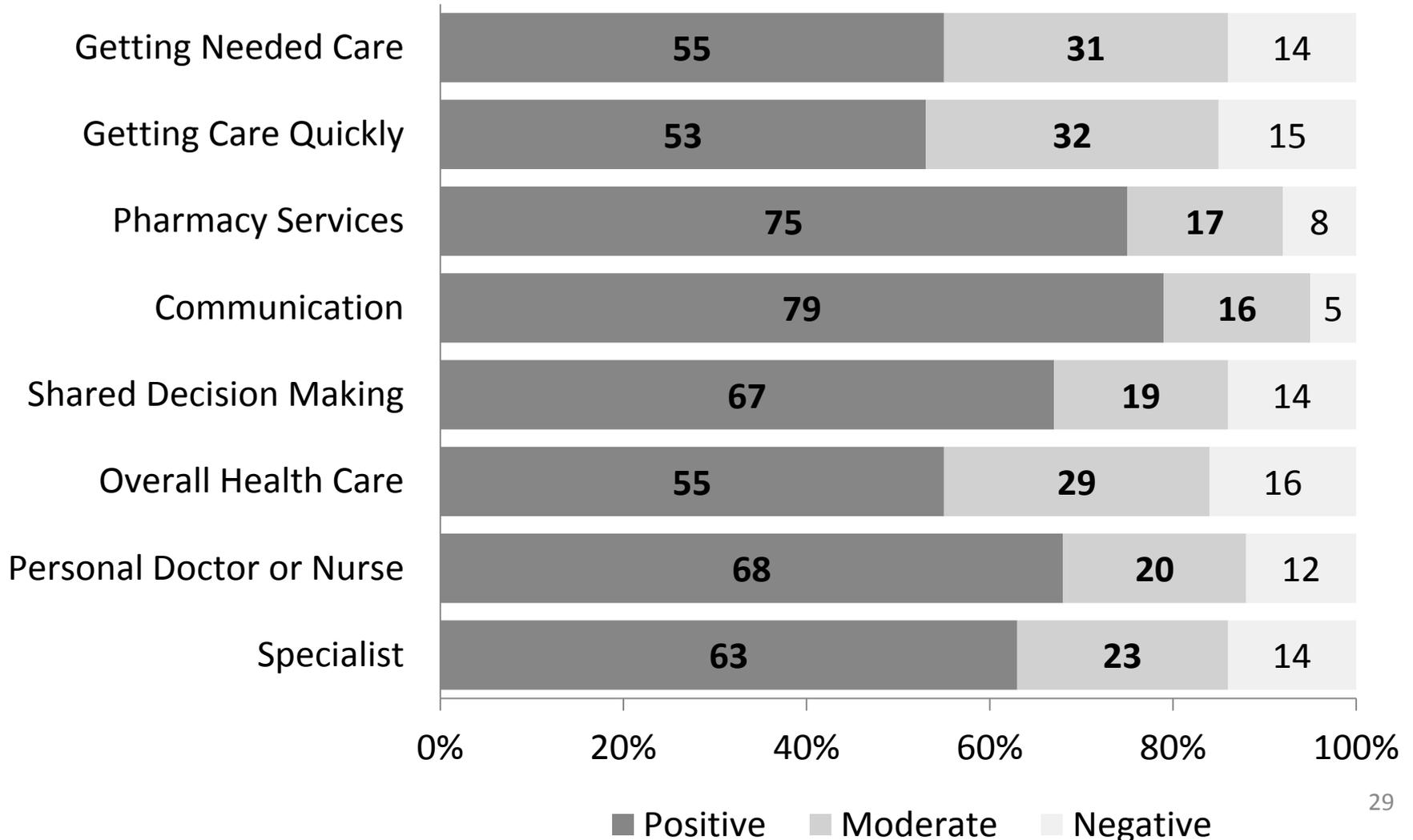
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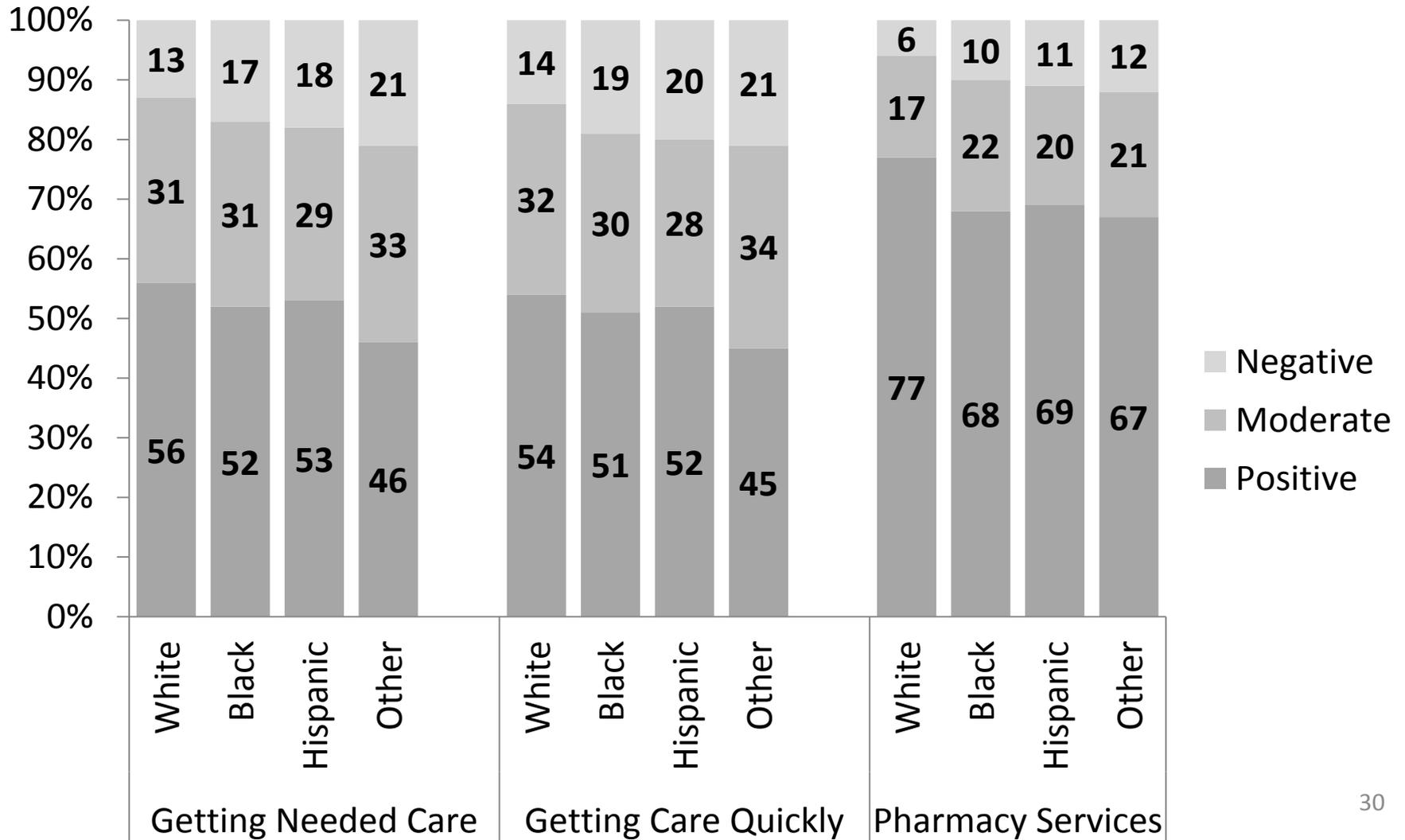
# Sample Characteristics

Characteristic	White (N=167,928)	Black (N=20,910)	Hispanic (N=10,450)	Other (N=12,171)
Female	6%	10%	8%	10%
65 and older	49%	25%	28%	28%
Poor/fair health	37%	43%	40%	42%
High school or less	44%	41%	40%	29%
Urban	53%	78%	75%	61%
Non-major facility	43%	30%	40%	40%

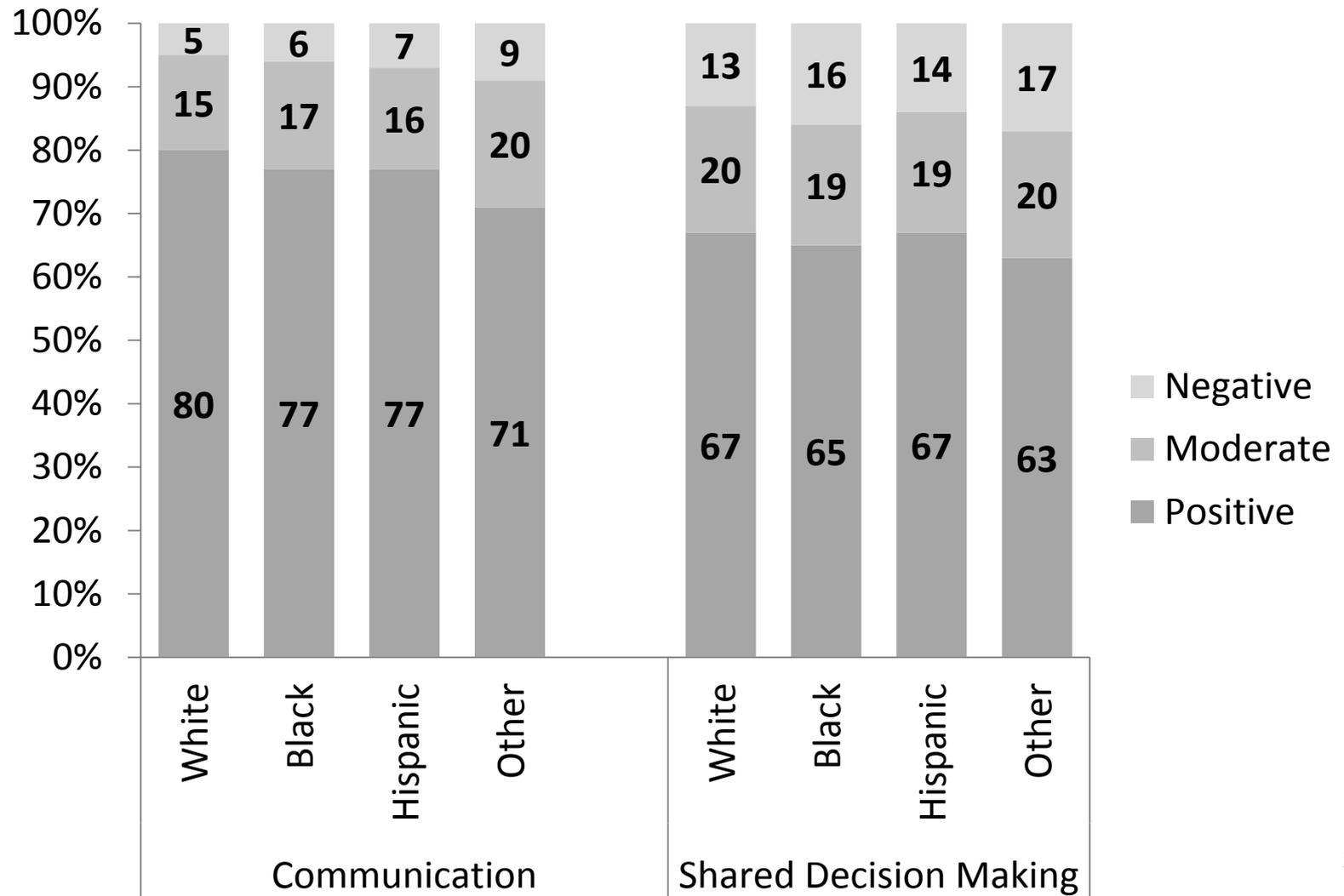
# Unadjusted Rates of Positive, Moderate, and Negative Experiences



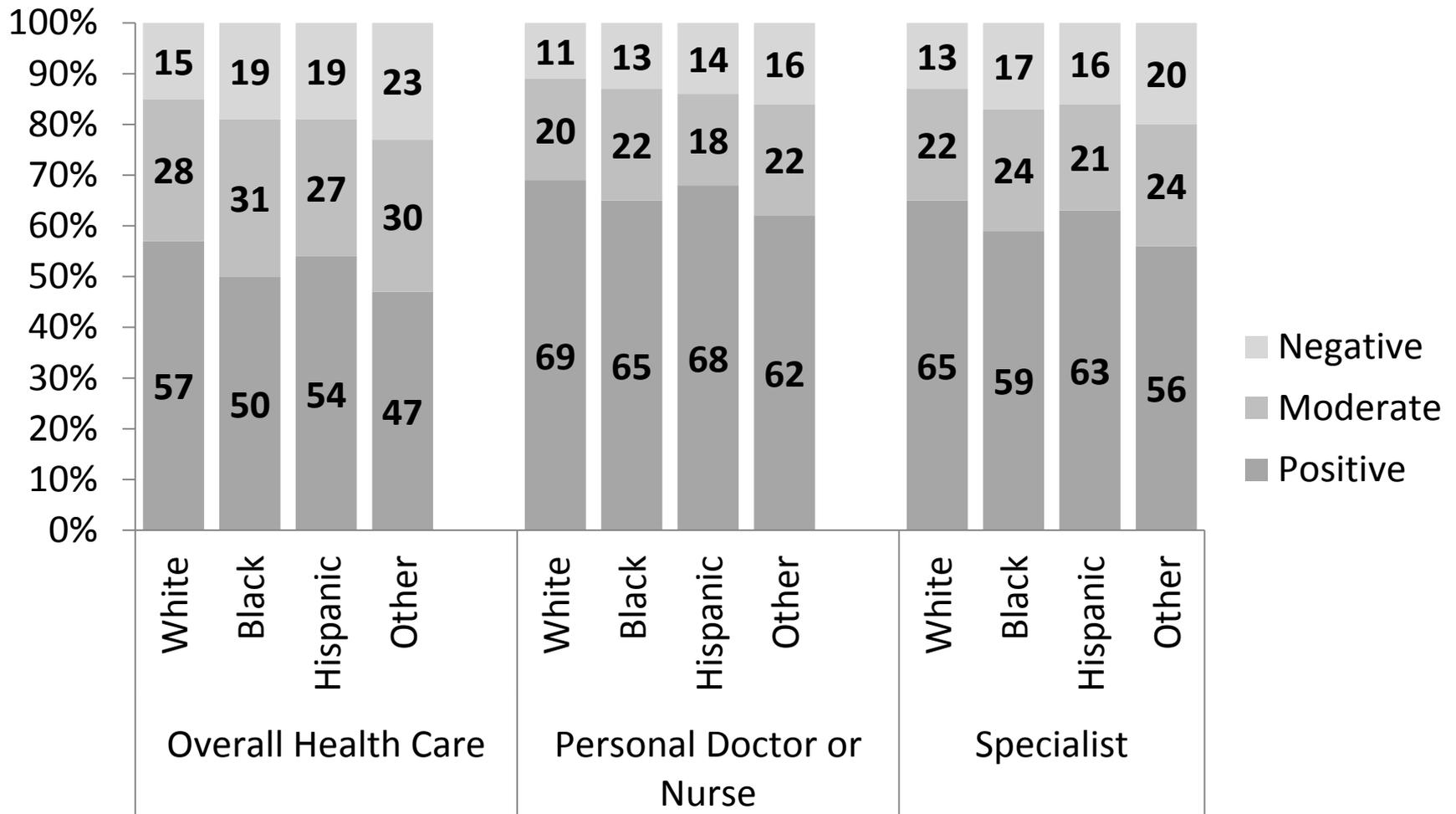
# Unadjusted Racial/Ethnic Differences: Access



# Unadjusted Racial/Ethnic Differences: Communication

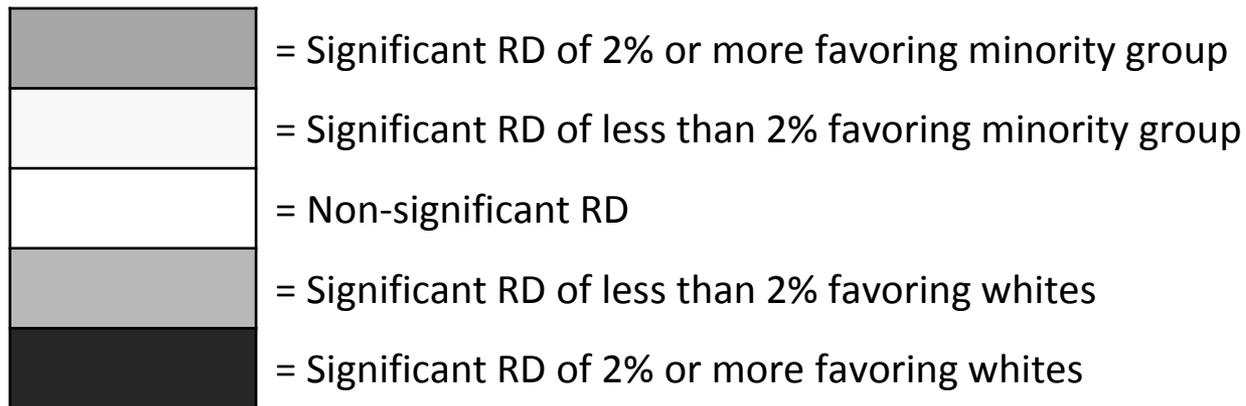


# Unadjusted Racial/Ethnic Differences: Overall Ratings



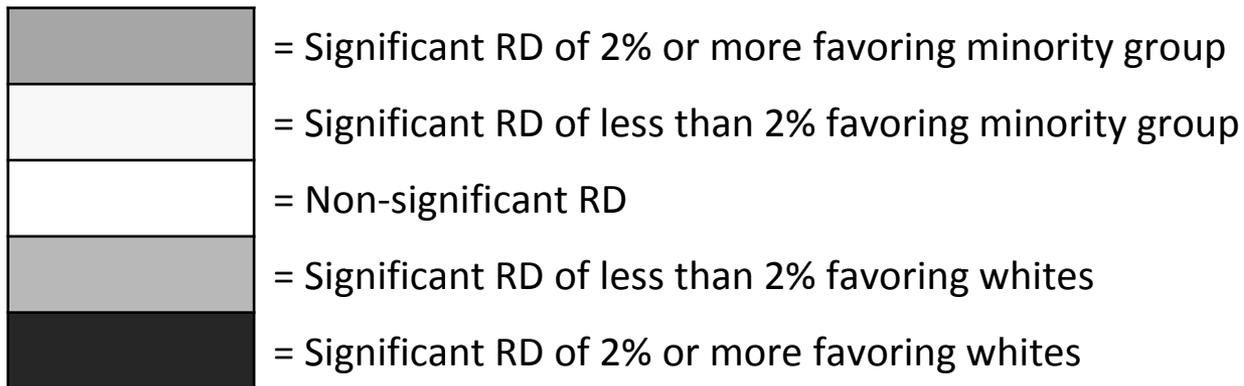
# Black-White Risk Differences (RD)

Domain of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care				
Getting Care Quickly				
Pharmacy Services				
Communication				
Shared Decision Making				
Overall Health Care				
Personal Doctor or Nurse				
Specialist				



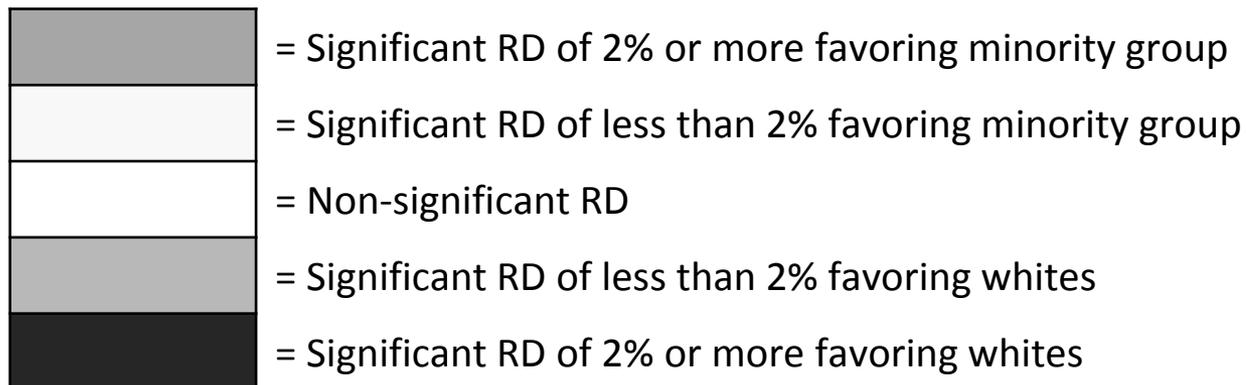
# Black-White Risk Differences (RD)

Domain of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care	0.4			
Getting Care Quickly	0.6			
Pharmacy Services	0.5			
Communication	-0.1			
Shared Decision Making	1.0			
Overall Health Care	0.6			
Personal Doctor or Nurse	-0.3			
Specialist	0.8			



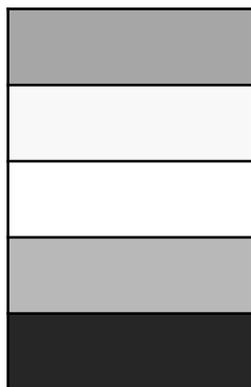
# Black-White Risk Differences (RD)

Domain of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care	0.4	1.34		
Getting Care Quickly	0.6	1.64		
Pharmacy Services	0.5	0.98		
Communication	-0.1	0.37		
Shared Decision Making	1.0	0.46		
Overall Health Care	0.6	1.18		
Personal Doctor or Nurse	-0.3	0.66		
Specialist	0.8	1.34		



# Black-White Risk Differences (RD)

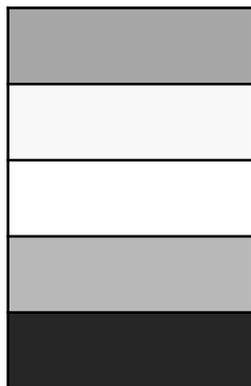
Domain of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care	0.4	1.34	1.7	
Getting Care Quickly	0.6	1.64	1.9	
Pharmacy Services	0.5	0.98	-3.3	
Communication	-0.1	0.37	0.7	
Shared Decision Making	1.0	0.46	-0.9	
Overall Health Care	0.6	1.18	-0.1	
Personal Doctor or Nurse	-0.3	0.66	-0.2	
Specialist	0.8	1.34	-1.1	



- = Significant RD of 2% or more favoring minority group
- = Significant RD of less than 2% favoring minority group
- = Non-significant RD
- = Significant RD of less than 2% favoring whites
- = Significant RD of 2% or more favoring whites

# Black-White Risk Differences (RD)

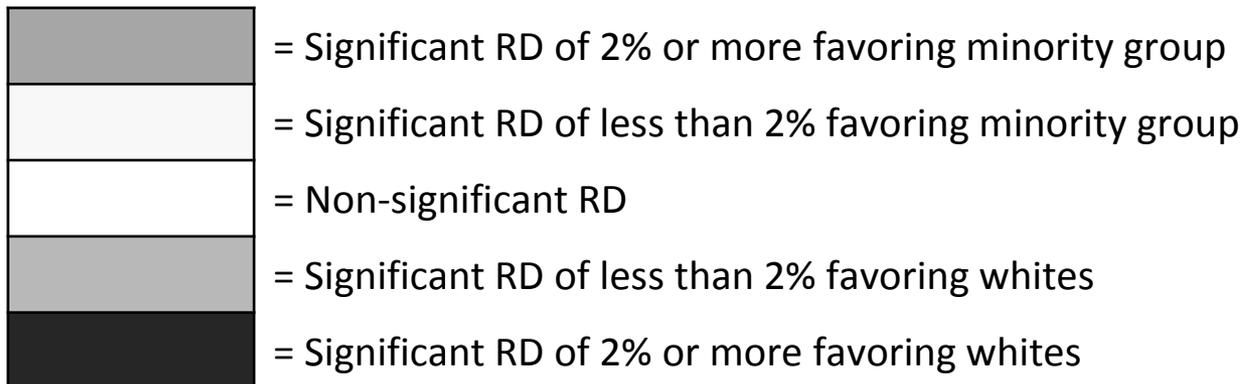
Domain of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care	0.4	1.34	1.7	-2.27
Getting Care Quickly	0.6	1.64	1.9	-2.24
Pharmacy Services	0.5	0.98	-3.3	-2.54
Communication	-0.1	0.37	0.7	-0.69
Shared Decision Making	1.0	0.46	-0.9	-0.48
Overall Health Care	0.6	1.18	-0.1	-1.28
Personal Doctor or Nurse	-0.3	0.66	-0.2	-0.84
Specialist	0.8	1.34	-1.1	-1.83



- = Significant RD of 2% or more favoring minority group
- = Significant RD of less than 2% favoring minority group
- = Non-significant RD
- = Significant RD of less than 2% favoring whites
- = Significant RD of 2% or more favoring whites

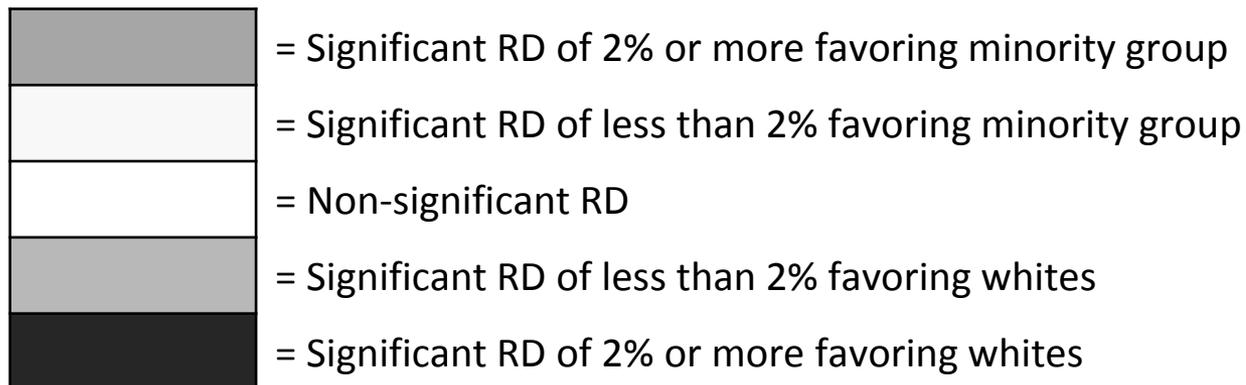
# Hispanic-White Risk Differences (RD)

Domain of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care	0.5	1.24	3.6	-1.84
Getting Care Quickly	0.6	1.31	3.7	-1.88
Pharmacy Services	0.1	0.60	-1.9	-1.00
Communication	0.1	0.33	1.1	-0.99
Shared Decision Making	-1.4	0.50	1.7	-0.15
Overall Health Care	0.1	0.95	4.1	-1.25
Personal Doctor or Nurse	0.1	0.34	3.3	-0.58
Specialist	0.6	0.65	3.0	-1.25



# Other-White Risk Differences (RD)

Dimension of Care	Negative		Positive	
	Within	Between	Within	Between
Getting Needed Care	3.7	0.05	-3.8	-0.16
Getting Care Quickly	2.3	0.05	-3.9	-0.00
Pharmacy Services	2.1	0.05	-4.7	0.02
Communication	2.2	-0.01	-4.4	0.08
Shared Decision Making	2.0	-0.06	-2.1	0.02
Overall Health Care	4.0	0.05	-3.3	0.03
Personal Doctor or Nurse	2.5	-0.06	-2.1	0.09
Specialist	3.4	0.07	-3.4	-0.00



# Conclusions

- There are significant racial/ethnic differences in VA outpatient health care experiences, with unique patterns for each minority group
  - Most black-white differences favor whites and occur between facilities
  - For Hispanics, between-facility differences favor whites, but within-facility differences favor Hispanics
  - For other racial/ethnic respondents, within-facility differences consistently favor whites

# Limitations

- Response rate of 53%
- Unable to examine differences for subgroups within the “other” racial/ethnic category
- Not clear whether findings are due to differences in patient expectations, survey response tendencies, and/or actual patient experiences

# Implications

- VA should report patient health care experiences by individual racial/ethnic groups (vs. white/non-white)
- Reports need to take into account within-facility and between-facility differences
- Improvement efforts should target minority-serving VA facilities and specific domains

# Acknowledgements

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  - VISN 4 Center for Health Equity Research and Promotion Competitive Pilot Research Program (LIP 72-051)
  - VA HSR&D Career Development Award (RCD 06-287)
- The views expressed here are those of the authors and do not represent those of the Department of Veterans Affairs or the United States Government.



# A First Look at Patient-Centered Medical Home Implementation for Minority Veterans: Room for Improvement

Susan E. Hernandez, MPA PhD Candidate

Research Associate, Seattle Center of Innovation for Veteran-Centered and Value-Driven Care  
at VA Puget Sound Health Care System

PhD Student, Health Services, School of Public Health, University of Washington

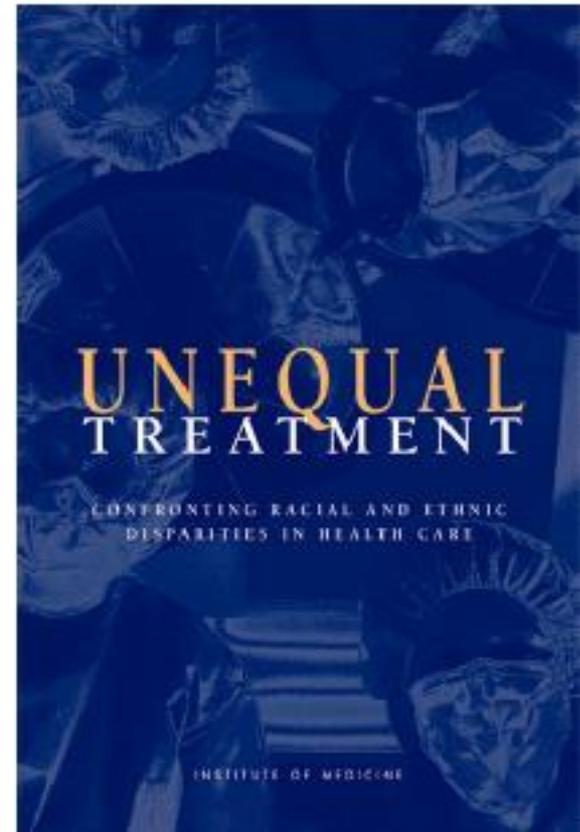
# Outline

- Motivation
- Background
- Methods
- Results
- Limitations
- Acknowledgements
- Questions/Comments

# Motivation:

## Racial/Ethnic Disparities

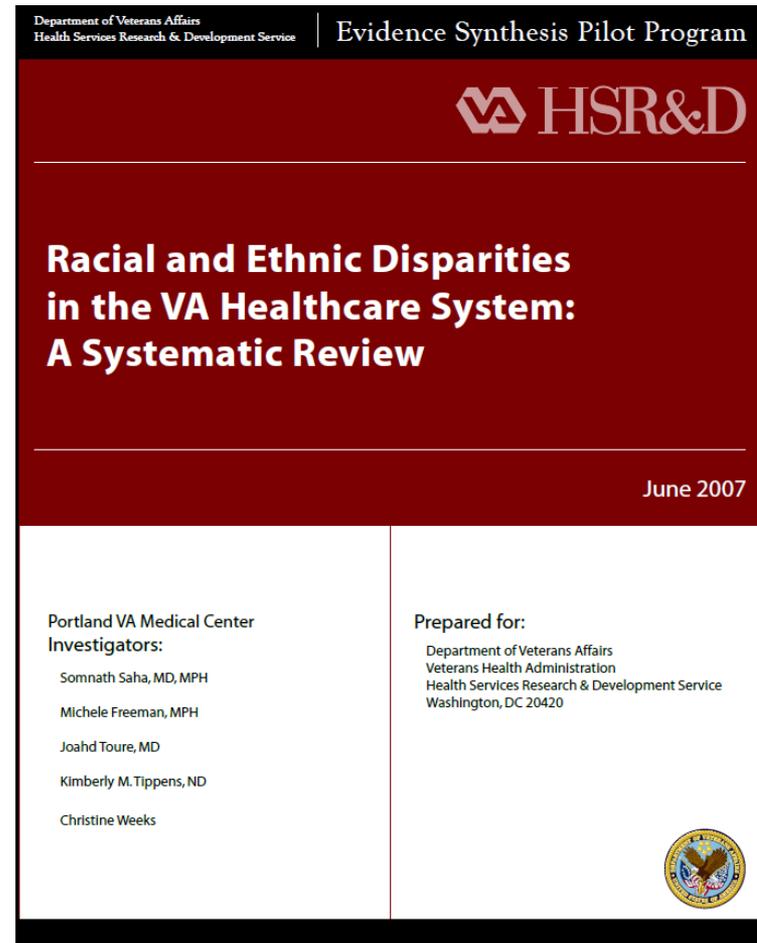
- 2002 report documents disparities in healthcare
- Differences represent inequity in healthcare delivery—healthcare disparities
- Residential segregation contributes to healthcare segregation
- Hypothesis:
  - Disparities produced as a result of minorities receiving care at a small number of low quality facilities



# Motivation:

## Racial/Ethnic Disparities in the VA

- 2007 report documents healthcare disparities in the VA despite no insurance-related barriers
- Racial patterns of healthcare use in the VA are similar to patterns in the private sector
  - Small number of facilities care for majority of minority Veterans
- Hypothesis:
  - Disparities results from minorities disproportionately receiving care from low quality facilities



# Audience Poll

**Are you familiar with the patient-centered medical home?**

Yes

No

# Audience Poll

**Are you familiar with Patient Aligned Care Teams (PACT)?**

Yes

No

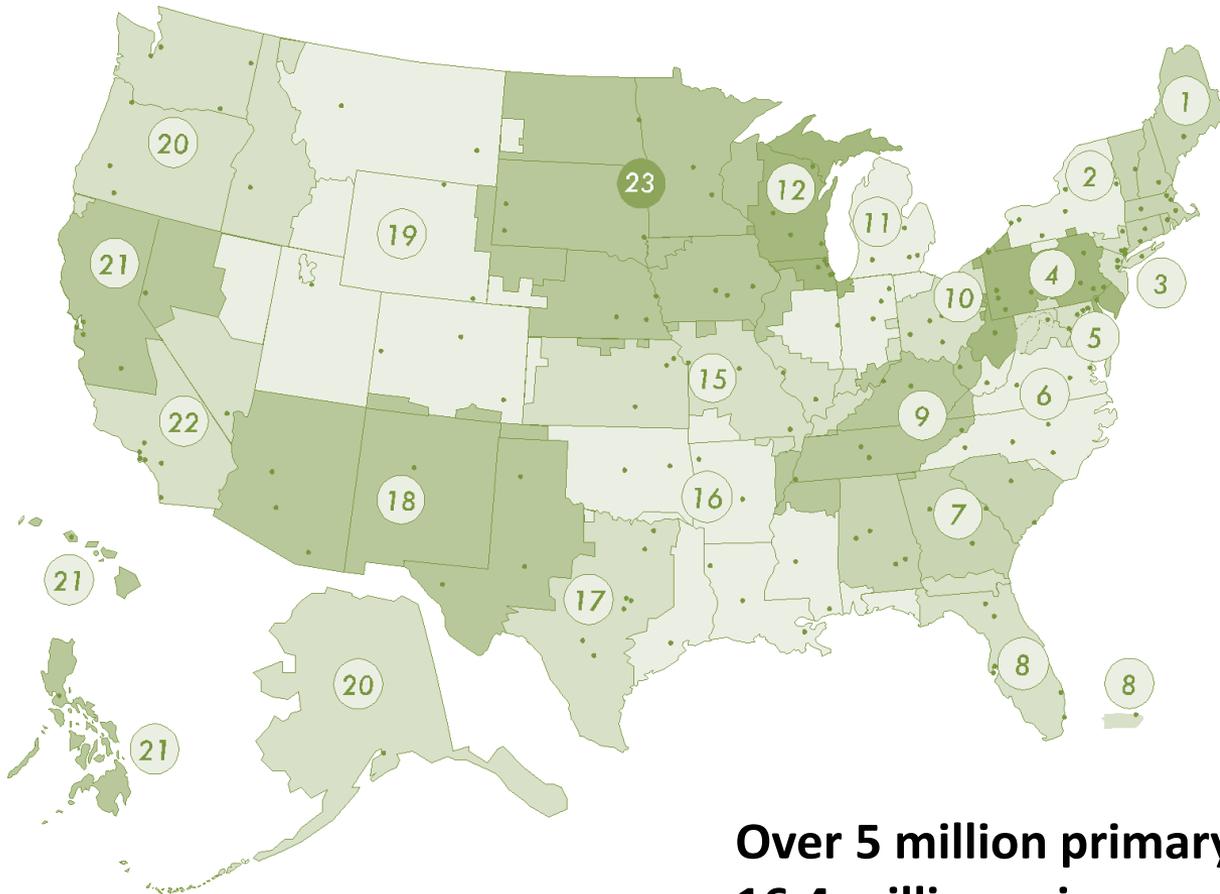
# Background:

## The Patient-Centered Medical Home (PCMH)

- 1967 American Academy of Pediatrics describe PCMH for children with special health care needs
- 2002 Grumbach and Bodenheimer PCMH to design primary care in crisis
- 2007 Joint Principles released
- Heterogeneity in operationalization of PCMH
  - Common elements: whole-person care, enhanced provider-patient communication, prevention and health promotion, and patient-provider shared decision making

# Background:

## VA PCMH—Patient Aligned Care Teams



**160 Medical Centers**

**802 Community-Based  
Outpatient Clinics (CBOC)**

**Over 5 million primary care patients  
16.4 million primary care encounters annually**

# Background:

## VA & Patient Aligned Care Teams (PACT)

### Unique Features of the VA & PACT :

- Many components were adopted as part of the 1990s transformation to focus on primary care
- VA has a robust EMR system
- The VA explicitly defines the members of a team and sets specific staffing ratios

# Background:

## VA & Patient Aligned Care Teams (PACT)

Implementation was not uniform across the VA:

- Need to assess PACT implementation nationally across all facilities

Research

Original Investigation

### Implementation of the Patient-Centered Medical Home in the Veterans Health Administration: Associations With Patient Satisfaction, Quality of Care, Staff Burnout, and Hospital and Emergency Department Use

Karin M. Nelson, MD, MSHS, Christian Helfrich, MPH, PhD; Haili Sun, PhD; Paul L. Hebert, PhD; Chuan-Fen Liu, MPH, PhD; Emily Dolan, PhD; Leslie Taylor, PhD; Edwin Wong, PhD; Charles Maynard, PhD; Susan E. Hernandez, MPH; William Sanders, AA, AS; Ian Randall, MBSA; Idamsy Curtis, BA; Gordon Schectman, MD; Richard Stark, MD; Stephan D. Fihn, MD, MPH

**IMPORTANCE** In 2010, the Veterans Health Administration (VHA) began implementing the patient-centered medical home (PCMH) model. The Patient Aligned Care Team (PACT) Initiative aims to improve health outcomes through team-based care, improved access, and care management. To track progress and evaluate outcomes at all VHA primary care clinics, we developed and validated a method to assess PCMH implementation.

**OBJECTIVES** To create an index that measures the extent of PCMH implementation, describe variation in implementation, and examine the association between the implementation index and key outcomes.

**DESIGN, SETTING, AND PARTICIPANTS** We conducted an observational study using data on more than 5.6 million veterans who received care at 913 VHA hospital-based and community-based primary care clinics and 5404 primary care staff from (1) VHA clinical and administrative databases, (2) a national patient survey administered to a weighted random sample of veterans who received outpatient care from June 1 to December 31, 2012, and (3) a survey of all VHA primary care staff in June 2012. Composite scores were constructed for 8 core domains of PACT: access, continuity, care coordination, comprehensiveness, self-management support, patient-centered care and communication, shared decision making, and team-based care.

**MAIN OUTCOMES AND MEASURES** Patient satisfaction, rates of hospitalization and emergency department use, quality of care, and staff burnout.

**RESULTS** Fifty-three items were included in the PACT Implementation Progress index (PI<sup>2</sup>). Compared with the 87 clinics in the lowest decile of the PI<sup>2</sup>, the 77 sites in the top decile exhibited significantly higher patient satisfaction (9.33 vs 7.53;  $P < .001$ ), higher performance on 41 of 48 measures of clinical quality, lower staff burnout (Maslach Burnout Inventory emotional exhaustion subscale, 2.29 vs 2.80;  $P = .02$ ), lower hospitalization rates for ambulatory care-sensitive conditions (4.42 vs 3.68 quarterly admissions for veterans 65 years or older per 1000 patients;  $P < .001$ ), and lower emergency department use (188 vs 245 visits per 1000 patients;  $P < .001$ ).

**CONCLUSIONS AND RELEVANCE** The extent of PCMH implementation, as measured by the PI<sup>2</sup>, was highly associated with important outcomes for both patients and providers. This measure will be used to track the effectiveness of implementing PACT over time and to elucidate the correlates of desired health outcomes.

**Author Affiliations:** Author affiliations are listed at the end of this article.

**Corresponding Author:** Karin M. Nelson, MD, MSHS, Seattle Center of Innovation for Veteran-Centered and Value-Driven Care, VA Puget Sound Health Care System, 1000 Olive Way, Ste 1400, Seattle, WA 98108 (karin.nelson@va.gov).

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Note: Nelson et al. Validation of a Method to Assess Implementation of the Patient Centered Medical Home (PCMH) in the Veterans Health Administration (VHA). JAMA Internal Medicine 2014 Aug;174(8):1350-8.

# Map Data Items to Conceptual Model of PACT

## PACT Implementation Progress Index (Pi<sup>2</sup>)

PACT GOALS	Pi <sup>2</sup> domains	Source of data	# of items
Accessible, continuous and coordinated care	Access	CAHPS-PCMH	11
	Continuity of care	CDW	3
	Coordination of care	CDW	8
Team-based care	Delegation, staffing, team functioning, working to top of competency	Provider survey	18
Patient-centered care	Comprehensiveness	CAHPS-PCMH	3
	Self-management support		2
	Patient-centered care and communication		6
	Shared decision making		2
<b>Total</b>			<b>53</b>

Note: Nelson et al. Validation of a Method to Assess Implementation of the Patient Centered Medical Home (PCMH) in the Veterans Health Administration (VHA). JAMA Internal Medicine 2014 Aug;174(8):1350-8.

# Data Sources

## Observational Cohort Study in 2012:

- Patient surveys: n= 75,101 Veterans
  - Consumer Assessment of Health Plans (CAHPS)-PCMH survey
- PACT Primary Care Personnel survey: n= 5,404 primary care staff
- Corporate Data Warehouse (CDW): n= >5.6 million Veterans
  - Administrative and clinical data

Note: Nelson et al. Validation of a Method to Assess Implementation of the Patient Centered Medical Home (PCMH) in the Veterans Health Administration (VHA). JAMA Internal Medicine 2014 Aug;174(8):1350-8.

# Construction of PACT Implementation Progress Index (Pi<sup>2</sup>)

- Generate z-scores for each item
- Average domain items
- Rank facility
- Pi<sup>2</sup> score calculated for each facility:

$$\text{Pi}^2 \text{ score} = (\# \text{ of domains in the top quartile}) - (\# \text{ of domains in the bottom quartile})$$

Range from 8 to -8:

High implementation: 5 to 8

Low implementation: -8 to -5

# Key Associations

Sites with higher implementation as measured by Pi<sup>2</sup> had:

- Higher patient satisfaction
- Lower staff burnout
- Higher proportion of Veterans meeting criteria on multiple measures of quality
- Modestly lower rates of hospital admission for ACSCs

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Karin M. Nelson, MD, MSHS; Christian Helfrich, MPH, PhD; Haili Sun, PhD; Paul L. Hebert, PhD; Chuan-Fen Liu, MPH, PhD; Emily Dolan, PhD; Leslie Taylor, PhD; Edwin Wong, PhD; Charles Maynard, PhD; Susan E. Hernandez, MPA; William Sanders, AA, AS; Ian Randall, MHA; Klamay Curtis, BA; Gordon Schectman, MD; Richard Stark, MD; Stephen D. Fihn, MD, MPH

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**IMPORTANCE** In 2010, the Veterans Health Administration (VHA) began implementing the patient-centered medical home (PCMH) model. The Patient Aligned Care Team (PACT) initiative aims to improve health outcomes through team-based care, improved access, and care management. To track progress and evaluate outcomes at all VHA primary care clinics, we developed and validated a method to assess PCMH implementation.

**OBJECTIVES** To create an index that measures the extent of PCMH implementation, describe variation in implementation, and examine the association between the implementation index and key outcomes.

**DESIGN, SETTING, AND PARTICIPANTS** We conducted an observational study using data on more than 5.6 million veterans who received care at 913 VHA hospital-based and community-based primary care clinics and 5404 primary care staff from (1) VHA clinical and administrative databases, (2) a national patient survey administered to a weighted random sample of veterans who received outpatient care from June 1 to December 31, 2012, and (3) a survey of all VHA primary care staff in June 2012. Composite scores were constructed for 8 core domains of PACT: access, continuity, care coordination, comprehensiveness, self-management support, patient-centered care and communication, shared decision making, and team-based care.

**MAIN RESULTS AND MEASURES** Patient satisfaction, rates of hospitalization and emergency department use, quality of care, and staff burnout.

**RESULTS** Fifty-three items were included in the PACT Implementation Progress Index (PI<sup>2</sup>). Compared with the 87 clinics in the lowest decile of the PI<sup>2</sup>, the 77 sites in the top decile exhibited significantly higher patient satisfaction (9.23 vs 7.53;  $P < .001$ ), higher performance on 41 of 48 measures of clinical quality, lower staff burnout (Maslach Burnout Inventory emotional exhaustion subscale, 2.29 vs 2.80;  $P = .02$ ), lower hospitalization rates for ambulatory care-sensitive conditions (4.42 vs 3.68 quarterly admissions for veterans 65 years or older per 1000 patients;  $P < .001$ ), and lower emergency department use (188 vs 245 visits per 1000 patients;  $P < .001$ ).

**CONCLUSIONS AND RELEVANCE** The extent of PCMH implementation, as measured by the PI<sup>2</sup>, was highly associated with important outcomes for both patients and providers. This measure will be used to track the effectiveness of implementing PACT over time and to elucidate the correlates of desired health outcomes.

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Note: Nelson et al. Validation of a Method to Assess Implementation of the Patient Centered Medical Home (PCMH) in the Veterans Health Administration (VHA). JAMA Internal Medicine 2014 Aug;174(8):1350-8.

# Project Goal

**Project investigates whether Patient Aligned Care Teams (PACT) is implemented differently by facilities in relation to the percent of minority Veterans served at a facility.**

- *Do facilities serving high proportions of minority Veterans have lower scores in the PACT Implementation Progress Index (Pi<sup>2</sup>)?*

# Study Design

- Observational, facility-level
- Cross-sectional analysis of PACT implementation (Pi<sup>2</sup>) for 2012
- Dependent variables: Overall implementation score and a score for each domain
- Key independent: Facilities categorized based on percent minority:
  - Low (<5.2%)
  - Medium (5.2%-25.8%)
  - High (>25.8%)
- Minorities
  - Black/African American, non-Hispanic; Hispanic; American Indian/Alaska Native, non-Hispanic; Asian/Native Hawaiian/Other Pacific Islander, non-Hispanic; and multiple race veterans
- Excluded facilities with <100 patients

# Statistical Analysis

To estimate the relationship between overall  $P_i^2$  and percent minority:

- Linear weighted least squares estimators of  $P_i^2$  as a function of % minority at the facility
  - The number of patients at a facility to adjust for heteroskedasticity
- Ordered logit models
  - Five levels of implementation as a function of % minority at the facility
  - Estimated average adjusted predicted probabilities for each level of  $P_i^2$
  - For each level of  $P_i^2$ , also calculated average marginal predicted probabilities

# Statistical Analysis

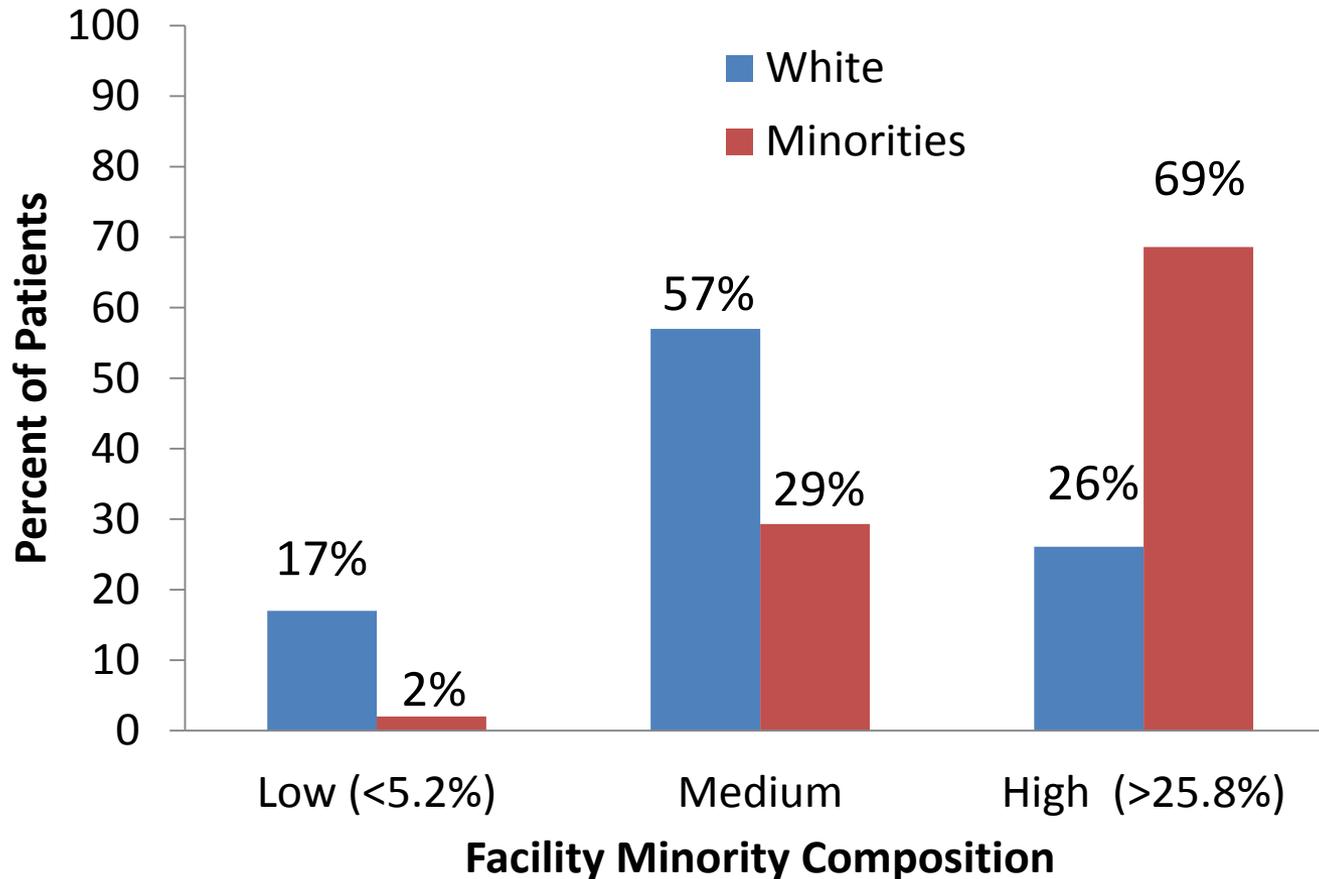
Also tested how each Pi<sup>2</sup> domain was associated with % minority:

- Linear models with individual domain scores as the dependent variable
- Team based care domain we included only facilities with more than 5 respondents to the PACT Primary Care Personnel Survey (n=320 facilities)

All adjusted models controlled for mean age, proportion female, and mean Elixhauser score

## Results:

# Most Minority Veterans Received Care in High & Medium Minority Facilities



# Results:

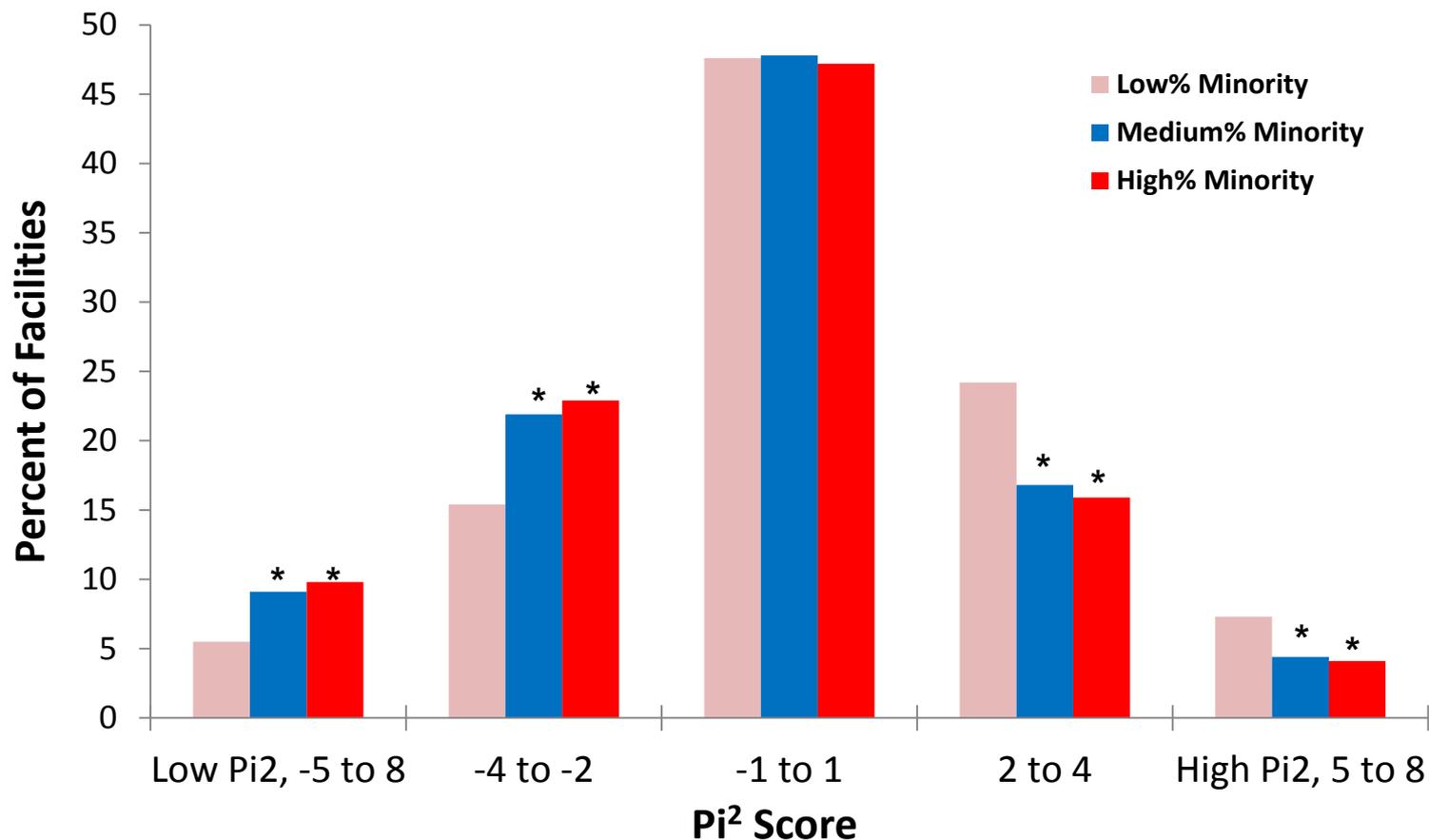
## Facility Characteristics

	Total	Low (<5.2%)	Medium	High (>=25.8%)
N	832	209	415	208
Age, (SD), years*	64.3(3.8)	66.4(2.7)	64.8(3.5)	61.3(3.5)
Percent Female, (SD)*	5.5(4.1)	3.8(1.0)	5.2(2.0)	7.9(1.0)
Percent White, (SD)*	79.0(18.4)	94.3(1.9)	84.5(6.8)	52.4(15.8)
Percent Black, (SD)*	10.1(13.3)	1.0(.8)	6.8(5.5)	25.6(17.4)
Percent Hispanic, (SD)*	4.8(10.5)	.7(.4)	3.0(3.0)	12.3(18.5)
Percent missing race/ethnicity, (SD)*	2.7(2.7)	2.0(1.7)	2.5(2.2)	4.1(3.8)
Elixhauser Score, (SD)	1.66(.030)	1.66(.036)	1.65(.028)	1.66(1.66)
Average Number of Patients, (SD)*	7211(7572)	3783(3613)	7217(6583)	10645(10329)

Note: ANOVA F\* test, p<.001. The F\* test is a modification of the standard F test that is much less sensitive to violations of the homogeneity of variance.

# Results: Adjusted Analyses

## Fewer Medium & High Minority Sites Achieved Top Levels of Implementation



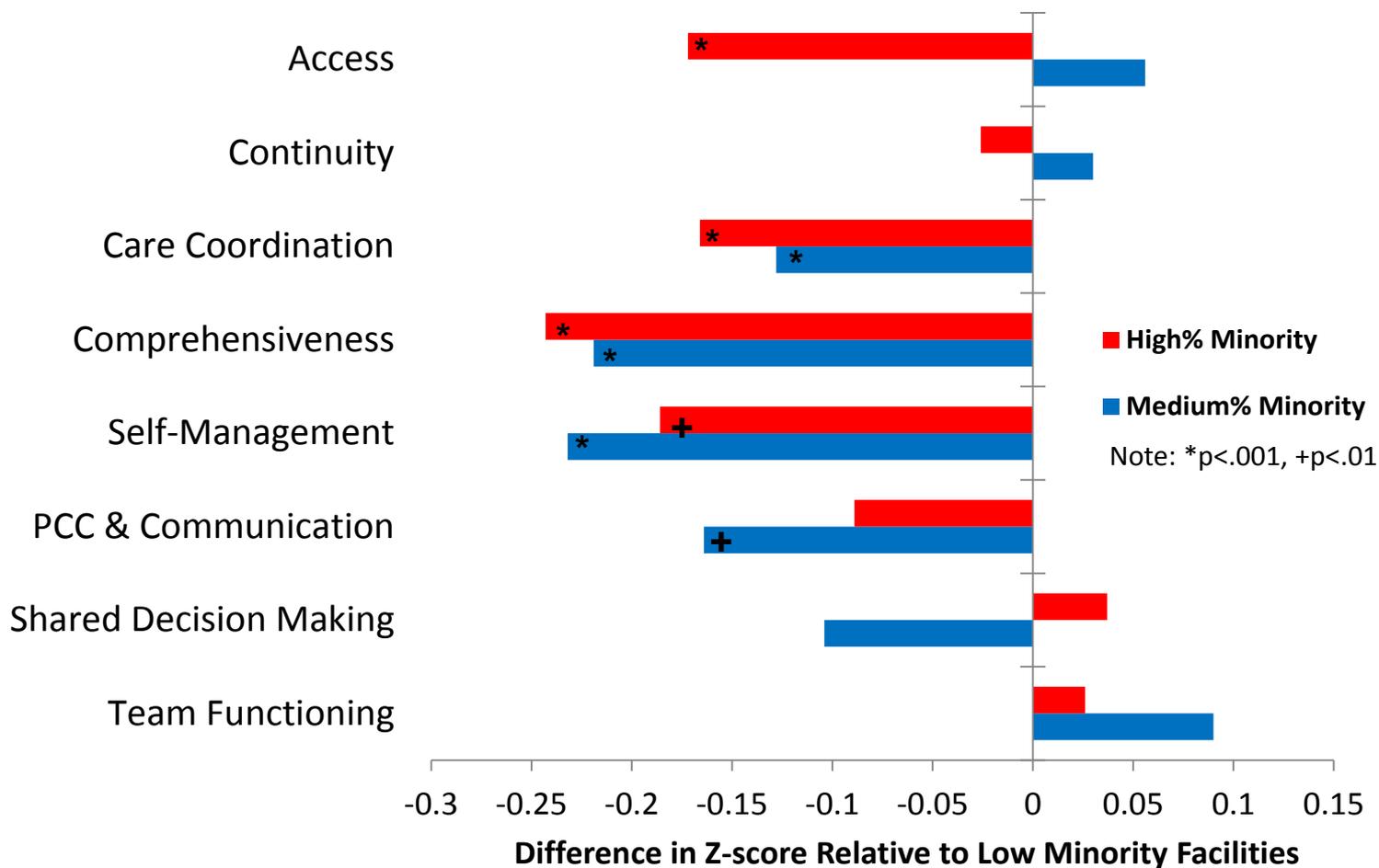
Note: Average adjusted predicted probabilities after an ordered logit with ordered least squares and robust standard errors adjusted for mean age, proportion female and mean Elixhauser Score

\*Differences relative to low minority facilities are statistically significant, p<.05

# Results: Adjusted Analyses

## Medium & High Minority Sites

### Scored Lower in 4 out of 8 Domains



Note: OLS model using weighted least square regression and robust standard errors adjusted for mean age, proportion female and mean Elixhauser Score. Team functioning domain included sites with at least 5 respondents, N=320.

# Discussion

- While differences in  $Pi^2$  are statistically significant, the clinical significance to minority veterans is not clear.
- Medium and high minority facilities scored lower in two out of the four domains comprising of items derived only from the CAHPS-PCMH patient experience survey.
  - Comprehensiveness, Self-Management
  - Medium minority facilities also scored lower in PCC & Communication
- Studies investigating the role of site care in the VA and disparities paint a mixed picture.

# Limitations

- Cutoff points for percent minority of a facility are somewhat arbitrary
- Low response rate of the provider survey
- Cross-sectional analyses did not permit assessing change over time

# Summary of Results

- Sites with higher percentages of minority patients had modestly less effective PACT implementation
- Medium and high minority facilities overlapped with lower scores in three domains
  - Care coordination, Comprehensiveness, and Self-management
- Medium and high minority facilities had greater probability of being a low implementer and lower probability of being a high implementer
- Further research is needed to:
  - Elucidate the relationship between the racial/ethnic composition of a facility and other characteristics that may impede or improve PACT implementation.
  - Determine whether less effective PACT implementation affects clinical and patient-centered outcomes for minority veterans.

# Dissertation Committee

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- 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 or the United States Government.

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